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The Gunpowder Club

Held its February meeting on the 25th, at B. McL. Hardisty's, Jno. D. Matthews being foreman of the day. The usual tour of inspection was made of the fields, the barn and stables, greenhouses, etc., when the club repaired to the house, and after some routine business opened the half hour for questions. John Bond was asked how feeding cattle had paid this season. He replied it had paid pretty nearly as well as usual, since although corn was high beef had advanced accordingly. He gave a statement of his experience. He bought his cattle August 18th, and sold them January 1st. Their average weight when bought was 670 pounds; when sold, 845 pounds; gain, 175 pounds. They were pastured three months and fed six weeks in stable. The cost of feeding was as follows: Three months' pasture at \$2, equal to \$6; two barrels of corn a head (average) at \$4, equal to \$8; 400 pounds of hay valued at \$4, making total \$18 per head. They were bought at 84 cents and sold at 5 cents, the gain per head being put about \$18. That is, he sold his products at home at the full market price and had all the manure made as clear gain. This result showed \$5 less gain per head than last year, but then the cattle were larger. Believes heavier cattle would have paid considerably more this year.

Who has any experience with dissolved South Carolina Rock for corn—how should it be applied and in what quantity?

A. G. Scott used half a ton on four acres—which was a repeat in corn—and got six barrels to the acre. Applied as the corn was coming up. Was pleased with result and will try it again. In Harford they sow on the sod in winter, sometimes as early as Christmas, and plow under in spring.

T. Gorsuch: Dickinson Gorsuch's idea is to sow it in with the wheat drill.

Col. Franklin asked for reports of experience in use of lime manure on corn.

E. Scott has used it on potatoes, mixed with three times its bulk of coal ashes, spread sometimes in row and sometimes broadcast.

Ed. H. Matthews has applied to corn in the hill with good results. Mixes with coal ashes and a little plaster, but care must be taken to scatter it well, otherwise it may injure the seed.

B. McL. Hardisty had used on corn. Thought it hurt the corn. Did not use ashes with it. Dampened it and allowed it to lie some days; a fermentation ensued and then it pulverized readily, when a little plaster was sprinkled over it.

Lewis Bacon. Is it more profitable to apply on corn than on wheat? He has been saving his for his wheat crop.

E. H. M. believes it is better for corn than anything else.

Jno. D. Matthews. With him, an application of chicken manure burned the corn up. It probably was not carefully enough dropped; it was scattered on the hills sometime after the corn was up. But on potatoes he had used it with greatest benefit. It was dropped in the row, and on part a chain

was dragged through to mix it with the earth; on the other it was left as dropped.

Col. Franklin. Who has used kainit?

B. McL. Hardisty had with marked results. Could see evident increase in growth of grass from its use.

In selecting seed corn, should we take all the corn or lop off the butts and tips of the ears?

None seemed to have any actual experience with both plans, but Saml. M. Price was instanced as being noted for his fine, large, well-filled ears of corn, and he always discarded the tips of ears saved for seed; and Jno. Crowther, Jr., said the filling out depends very much on the season. When the ear outgrows the husk it is generally well filled.

Is it advisable to plant small potatoes?

John D. Matthews would not advise it. Has done it, and, as a rule, small potatoes produce small ones. Has tried them side by side.

B. McL. Hardisty, for two years has planted his smallest potatoes to themselves in the field, and got as good results from them both seasons as where pieces of large potatoes had been planted. Got 85 bushels from about half an acre, the land being a sod of eight years' standing, fall plowed. Prefers a light, sandy soil with considerable vegetable matter in it for potatoes.

Jno. D. Matthews. The best crops he ever raises are on clay soils.

This being one of the meetings set apart for reading, selections were read by Messrs. W. W. Matthews, Thomas Gorsuch and Jno. Crowther, Jr., the views advanced therein being discussed.

Jno. D. Matthews remarked that a good aftermath left on the ground was better than a coat of manure. The grass roots draw from the sources below the plant food, it is stored up in the plants and given back to the soil when they die.

Question. How about cutting grass and letting it lie?

Answer. Prefers to let it stand.

In purchasing land, the first consideration is to know what is its natural condition; the tendency of the soil being always to return to its normal state. If the land is fertile naturally, rest has a tendency to restore fertility.

E. Scott said the most astonishing instance he knew of the restoration of fertility was the case of Joseph Bosley's lands, which were brought up by one liming and one crop of clover from yielding two to three barrels to producing ten barrels of corn to the acre.

Jno. D. Matthews had a similar experience with his garden. It failed to yield its usual crops, but a small application of lime doubled and trebled them.

The question of the manner of application and the returns to be expected of commercial fertilizers coming up, Jno. D. Matthews said one condition of their successful use is to have the ground in perfect condition. If the land is rough and lumpy, good returns cannot be reasonably expected. The farmer should not stop short of securing the finest possible tilth.

A desultory but interesting discussion on the use of lime ensued, touching the appropriate quantities to apply, the best methods, etc., and the advisability of using superphosphate soon or directly after a dressing of lime. One member said he had applied a well-known fertilizer to his wheat on land limed the preceding spring contrary to the usually received objection, and against the advice of the manufacturer, but the yield was remarkably good—indeed, where no fertilizer was applied the crop was a failure.

A resolution (given elsewhere) was adopted, protesting against the Legislature renewing the withdrawn appropriation to the Agricultural College.

Agriculture Abroad.

From our Correspondent in France.

THE RESULT OF THE YEAR.—Farmers have taken stock of 1881, and appear on the whole not to be dissatisfied with the result. The price of wheat, which may be taken as the standard of profits, has been more advantageous, without affecting seriously the pockets of the consumers. The vintage has been better, despite phylloxera and frost; the wine industry of the country is not compromised; new vineyards are coming into existence, and if proprietors cannot extirpate the phylloxera they can at least protect themselves against its ravages. Live stock has left not a little to be desired; this is due to short supplies of food. The price for fat stock was high, but a deficiency of fodder made it difficult to prepare cattle for butchers.

AGRICULTURAL SHOWS.—In the holding of the governmental regional agricultural shows, an improvement has been effected by admitting horses. The odd circumstance about the affair was, that so important an industry as horse-breeding, and of paramount importance to France, should have been omitted. Even as matters now stand horses are not admitted to these contests even on a foot of relative equality with pigs. The resolution to award no more prizes to agricultural implements is questionable. Old manufacturers are weighted with diplomas and medals, but this is no reason why new makers ought not to have their cakes and ale. Implement shows and trials are very common; so much the better for manufacturers and agriculturists.

AGRICULTURAL NEEDS.—Internal roads are much needed in France. To remedy this defect, landed proprietors interested in opening up any district, are now provided with the necessary powers for doing so. The transport rates charged by railway companies are positively so high as to be next to prohibitive; they constitute one of the most serious obstacles to the progress of agriculture. To protect the beet sugar interest, so-called free-trade farmers demand that the duty of 20 francs per cwt. be maintained on colonial sugars and the home tax reduced to 24 francs per ton of beet delivered at the factory. Agriculture has been endowed with a special minister since over two months, but how long that business-like arrangement may be continued is uncertain.

THE SUGAR BEET.—In the north of France sugar beet is viewed by the agriculturists as a cornucopia. It possesses the advantage of feeding stock cheaply under conditions where high farming is practiced. The products from beet—sugar, molasses, alcohol—repay in a great measure the expenses of production, while the pulp, varying in price from 10 francs to 15 francs per ton, following not so much quality as locality, feeds working bullocks, then sets them off, in addition, to supporting sheep and cows. The value of the manure must not be omitted. In the Department of the Nord, 25 per cent. of the arable soil is under beet, which realizes on an average 20 francs per ton. About 2½ tons of pulp are viewed as equal to one ton of ordinary hay. At Roye, Messrs. Pluchett & Frissard cultivate 15,000 acres of sugar beet, less 25 in meadow. The rotation is triennial; beet, wheat or rye, oats and clover. They employ 160 bullocks, 30 horses and a steam plough. The sugar beet worked up during the season is 150 tons per day.

This establishment was the first to employ the extraction of beet juice by the process of diffusion, now so general, which has superseded the old method of pressing the pulp in sacks in hydraulic machines. The principle of diffusion repose in osmosis and exosmosis, the same laws which regulate the flow of sap in plants. If on a glass of water a little wine be carefully poured and the air kept perfectly still, the wine being lighter, will float, but in time will be found to have gradually become mixed layers-like, in the water. Or, if a bladder containing a solution of sugar be hermetically fastened and suspended, not a drop of the contents will escape; but if the bladder be placed in a vase of water, the solution will exude through the pores of the membrane, the water also passing inwards at the same time, rapidly. The liquids exchange places. This is the process of diffusion. The beets are cut up into little slices, placed in an iron cylinder and hot water added, as the change thus provoked is more rapid. The cellulose of the beet act the role of the membrane of the bladder; they empty their sugar and salts into the water, when the solution is duly drained off and the pulp taken out and pressed to obtain all the liquid. Under the ancient press method from 4 to 6 per cent. of useful substances were lost; by the diffusion process only about a half. In other words, 6½ per cent. of sugar is now obtained against 5½ formerly, which on 15,000 tons of roots means 1,000 sacks more of sugar. The labor, too, is less. The pulp from the beet treated by the diffusion plan contains from 10 to 15 per cent. more water, hence, less esteemed by farmers; but then it costs 10 francs less per ton, and when mixed with cut fodder, linseed or cottonseed cake, fattens animals well in four months. Chemists allege that no great advantage is gained by having a pulp rich in sugar, for when the pulp is placed in the trench for conservation the sugar becomes rapidly changed into alcohol and next into acetic acid. The scums from the defecation of the juice make excellent manure, being rich in nitrogen; as a

top dressing for meadows it is invaluable, and ploughed in after a flax crop is considered as an excellent preparation for stolen crops of turnips. On beet farms, the ratio of stock kept in 10 sheep or pigs, or one head of black cattle per $8\frac{1}{2}$ acres.

Paris, January 16, 1882.

American Cereals—Yield for 1881, and Valuation.

The cereal estimates of the department of agriculture for the crop of 1881, show a more general reduction in yield than for many years. During the five preceding years no one of the grain crops met with serious disaster. In 1875 the wheat product was reduced, while the corn crop was above an average. In 1874 the reverse was true, wheat making an average crop, and corn nearly as bad a failure as in 1881. In 1880 corn was comparative failure, while wheat produced more than an average yield. In no season since the inauguration of crop reporting has there been so general disaster, involving corn, wheat, barley, buckwheat and rye, oats alone being exempt from loss. The aggregate of corn estimates is 1,194,916,000 bushels, grown upon 64,362,025 acres, or 18.6 bushels per acre. This is a reduction of 31 per cent. from the crop of 1880.

The wheat crop aggregate 380,280,000 bushels, a reduction of 29 per cent., grown upon 37,709,020 acres, a yield of 10.1 bushels per acre—the lowest rate of yield yet reported for the entire crop.

Rye, 20,704,959 bushels, a reduction of 27 per cent.; area, 1,789,100 acres, yielding 24.7 bushels per acre.

Barley, 41,161,330 bushels, a reduction of 9 per cent., grown on 1,967,510 acres, or the rate of 20.9 bushels per acre.

The product of oats is 416,481,000 bushels, against 417,885,380 in 1880. The acreage is 10,831,000, and the yield 24.7 bushels per acre.

Buckwheat, 9,485,900 bushels, grown on 828,815 acres, yielding 11.4 bushels per acre.

The aggregate product of all cereals is 2,063,029,570 bushels, against 2,718,193,501—a decrease of 24 per cent.

The aggregate value of cereals grown in 1881 is greater than the total valuation of 1880. Corn and oats, mainly consumed at home, and used interchangeably, are most affected by the failure of maize. The average value of corn advanced from 39.6 cents in 1880 to 63.6 cents in 1881; oats from 36 to 46.4 cents; wheat advanced from an average of 95 cents to \$1.19 per bushel.

The values are in round millions as follows: Corn, 759; wheat, 483; oats, 198; rye, 19; barley, 33; buckwheat, 8; total, 1,465, against 1,361 in 1880.

Tobacco in Anne Arundel, Md.

A planter writes **THE AMERICAN FARMER** as follows:

I have proved conclusively that the same kind and same quality of tobacco can be raised in lower Anne Arundel county as is raised in Lancaster county, Pa.; that it can be used for same purposes and will bring as much money, if the same care is taken to keep the worm off the plants as Pennsylvania tobacco. But on account of the law in this State compelling planters to pack in hogsheads of 600 pounds or more, and also because of compulsory inspection, my experiments have gone for nothing, as tobacco buyers want the article packed in boxes of from 200 to 400 pounds. By tobacco buyers, I mean parties that would buy Pennsylvania or similar tobacco. They are called packers in Lancaster and are the firms to whom the farmers sell their crop. Give us a new tobacco inspection law devoid of above objectionable features, and the farmers of southern Anne Arundel county need no longer cry hard times and "wolf," but can go to work and raise Lancaster tobacco and get wealthy.

Reseeding Run-Out Pastures.

An inquirer having asked George Geddes, one of the best of farmers, how to do this he replies as follows, the object of the inquirer being to get this field to produce abundance of good pasture grass without plowing it up: This is no very difficult matter, as I understand the case. First, cut the thistles and all clumps of grass close to the ground this fall. A mowing machine does much better work than a scythe. The object of this is to fit the ground for harrowing next spring. Soon as the ground is in condition to work next spring, harrow it thoroughly, and sow grass liberally on the raw surface, and cover this grass seed lightly, not more than half an inch deep. Just how much the surface should be broken by the harrowing must be decided by circumstances. If the cattle can be kept off for a while more harrowing will be admissible, than if the land must be immediately run over by farm stock.

If the field could be allowed to remain un-pastured until midsummer, a crop of hay could be taken off to great advantage, and in such case the ground should be severely cut up by the harrow teeth to give the new seeding the greatest advantage, and in any case the old sod will bear much more cutting up than a person who has never had experience in this matter would think, and still leave life in the old roots to grow. As to the kind of seeds, and quantity to be sown, I would advise for one acre, six quarts of red clover seed—to contest the occupancy of the land with the thistles. Many persons think Canada thistles are easily killed. I do not, and I have found red clover, sown thickly, the very best thing to dispute possession and keep the thistles down. With the clover sow one bushel of orchard grass seed. This grass is slow to take possession, but will be ready to succeed the clover and will last. Just here it occurred to me that some seven or eight years ago we changed the fence between an old sidehill permanent pasture and what was then an unseeded wheat stubble. Nearly an acre of this stubble was put in with the pasture, and has been grazed over since by all kinds of farm stock, and at times very closely cropped by sheep.

I have just returned from an inspection of this land, and found as I expected, that the orchard grass had survived, and was rank and vigorous, spreading its wide leaves over the ground just as it has all along through the late extreme drought in the lawns about my house. Judging by the appearance of the pasture, the flock of lambs now on it prefer the June grass (another name for Kentucky blue grass), as they keep that fed closer than the ranker orchard grass. But the June grass ripens and dries up early in the season, and only starts again when favoring rains and warm weather gives it an uncommon stimulus. So I advise orchard grass to form part of a permanent pasture. Kentucky blue grass should be sown with the rest, one bushel to an acre, if there are no roots of this grass in the land. Timothy at the rate of four quarts to the acre, will help occupy the ground while the other and more permanent grasses are acquiring possession. I do not advise sowing gypsum (land plaster) on mucky land, as on such it has never shown me any beneficial results, but on uplands I would advise one bushel per acre of gypsum as of the greatest importance.

In sowing orchard grass and clover on the same ground, it is recommended to sow the two kinds of seed separately, and also to divide the orchard grass into two parcels, and sow it in two directions. This secures regularity in the distribution, and prevents the formation of tussocks. Some practice dampening the seed, but this is not necessary if care be taken, and especially if it is sown as suggested.

Coomassie 1442. J. H. B.—H. C.

Coomassie, the subject of our illustration, is the property of Mr. S. M. Burnham, of Saugatuck, Conn., who also owns a son and several of her grand and great-granddaughters. In our issue of January 1, we made mention of the fact that Mr. John E. Phillips, of Baltimore, had added to his herd a young inbred Coomassie bull, Count of

Oxford. We have made some effort to secure not only a cut of this remarkable cow, but a record of the performance of members of the family, which we give below.

Coomassie was dropped in 1871, and imported to America in January, 1881. She brought with her a remarkable reputation, gained by continuous and unprecedented success in the Island show rings, where the competition against her gradually decreased, until at the last two shows at which she appeared but one competitor in each year could be found to enter the lists with her. With different judges in every trial she won the following prizes: 1876, first prize, young cow class; 1877, first, old do.; 1878, first, champion do.; 1879, first, do.; 1880, first do. Also, four first prizes at Parish shows, from 1875 to 1877. Her sons were also continuously successful, and her descendants figure more largely as winners at the Island shows than those of any animal in the annals of Jersey. Her repeated triumphs have indicated her to be the model Jersey cow as to form and appearance. Her dairy qualities, however, and her power to transmit them to her descendants are even more strongly marked than her success in the show ring, and stamp her family as unexcelled in that most important characteristic of the Jersey cow—ability to make large amounts of butter, and to continue to do so for long periods after calving.

In herself she has records as follows: 1878, 16 lbs. 11 ozs. of butter in 7 days; 1879, 16 lbs. 7 ozs.; 1880, 16 lbs. 9 ozs. Tracing to her son Khedive are Ona, with a record of 17 lbs. 4 ozs. in 7 days at 3 years old, on grass and two quarts of corn meal per day, and 11 lbs. 4 ozs. in the same period 7 months after calving and 5½ months in calf. Princess of Ashantee, with 11 lbs. 13 ozs. of butter in a week, and 16 qts. when fresh, at 2 years.

To Koffee, her oldest son, the following animals trace: Island Star, with 8 lbs. 4 ozs. in 2 days, equivalent to 11 lbs. 6 ozs. in 7 days—made 10 months after dropping her first calf, at 2 years, and being 6 months in calf. This record stands unequalled, considering the age of the animal, length of time in milk and calf. Queen of Ashantee, with 10 lbs. 14 ozs. to her credit 6½ months after calving as a two-year-old. Auntybel, 7 months after calving, as a two-year-old, made 9 lbs. 3 ozs. in 7 days, being 5½ months in calf. Fancy Fawkes has 8 lbs. 3 ozs. to her credit at 7 months from calving, at 2 years.

COOMASSIE.



Coomassie's third son, Vertumnus, numbers among his daughters La Rouge, who made 14 lbs. 2 ozs. at 4 years. Punchinello, who gave 15½ qts. when in first calf, and Le Gros' Lily of the Valley, with 8 lbs. 12 ozs. of butter in 6 days, at 2 years.

The blood is comparatively rare in this country, and the above named animals represent about one-half of those which have yet been in milk, and about all that are known to have been tested. Most of them are young, and none, so far as known, over 5 years old. In view of these facts, and the remarkable degree of excellence of the tests, it is no idle boast that the blood of Coomassie is not excelled, as yet, as a producer of butter makers. Her descendants combine beauty of form and fine breeding, with perfect shaped udders and well spread teats, in every case. In appearance Coomassie is a buckskin fawn, with much white, low on the leg, and fine in bone; her ribs spring well out, and compass a splendid barrel. She has a long, flat neck, and beautiful head and eye; a very large curvilinear escutcheon, and absolutely perfect shaped udder, with well spread teats.

We have had the pleasure of a personal inspection of this remarkable cow and many of her female descendants, and can say that the prepotency or power of transmitting large, perfect shaped udders is truly remarkable, and we have no hesitancy in saying that Mr. Phillips has added a valuable strain of blood to his already large and choice herd.

Mr. F. Von Kapff has a fine daughter of Rex in calf to Catona, a son of Ona, mentioned above.

Since writing the above we have again had the pleasure of visiting the home of Coomassie, and found her fresh with a bull calf, and the present development of udder, we were assured, far exceeds in dimensions the one at the time the photographs for the cuts were made, which was shortly after her importation. Her udder is simply perfection in shape, and would serve as a model. It measured 54½ inches in circumference, 19 inches longest diameter, and 10 inches diameter in rear. We also saw eleven of her granddaughters and great-granddaughters, who have come in milk, most of them but once, and the uniform development of udder, as well as other characteristics of the old cow, show beyond dispute that she is possessed of remarkable prepotency. The tables of Major Campbell Brown of cows which have made as much as 14 lbs. of butter per week, which appeared in the last number of the *Country Gentleman*, and which we will probably copy and comment upon in our next, show, from the hasty glance which we have been able to give to them, that the combination of Splendid 2, Albert 44, McClellan 25, and Pansy 8, so often mentioned in our columns, takes the lead so far, and is certainly remarkable prepotent blood; but we could not resist the conviction that the Coomassie blood is the strongest in this country to-day. The four animals mentioned above lived in their prime from 15 to 20 years ago, while Coomassie is only 11 years old, still in her prime, and has only been in this country a little over a year; and to attempt to resist the lesson taught by the tests of her offspring, published above, as well as those conveyed to the eye by a personal inspection, is futile, and no man can afford to do so simply because another enjoys almost a monopoly of this family.

We wish Mr. Burnham every success and good fortune with them, and believe they could not have fallen into better hands. And we advise the owners of the Pansy-Albert-McClellan combination to secure representatives of the family whenever occasion offers, as the most suitable out-cross for their herds.

confidence in the man who handles him, and then this powerful animal, which usually no man could handle if it were disposed to be vicious, will give no trouble.

The very best rule, therefore, which we would lay down for the management of the horse, is gentleness and good sense on the part of the driver. Bad drivers make bad horses, usually.

The Argument Against the Blind Bridle.

We know not who invented this instrument of horse torture, but we know he did not understand the anatomy and physiology of the eye of a horse. Human vision is binocular—that is, we see the same objects with both eyes—and so adjust the axis of vision that the object appears single though seen with the two eyes. But the eyes of the horse are placed on the side of the head and the axis of each eye is nearly at right angles with the longitudinal line of the body, so that it is impossible that the same object can be distinctly seen with two eyes. Now by blinding the eye in the direction in which it was intended in its construction that it should see, it is forced to use an oblique vision, as if we should cover the front of our optics and be compelled to see only by the corners of our eyes. This unnatural and constrained use of the eye must, to a greater or less extent, impair vision, if not entirely destroy it. The object for which the blind bridle is used is not accomplished by it. A horse is more readily frightened when he cannot see the object of his dread than if he can have a fair view of it. But it is surprising to observe with what tenacity men hold on to an absurd and cruel practice, when a moment's reflection would teach them better. Nineteen out of every twenty horses you see in harness have blind bridles on, and if you ask the owner to explain its benefits, or why he uses it, he will be utterly unable to give a rational answer. We are not surprised that draft horses are subject to diseased eyes—we wonder that they are not all blind.

Sheep.

The crying need of American Agriculture to-day is a more general incorporation of the sheep into the farming economy. More prolific than horses or cattle, as well as more tractable, subsisting on scantier herbage, and requiring less supervision; it claims the additional advantage of "paying for its raising" in annual instalments of marketable fleece, pending its growth to maturity. It is more readily transferred from one inclosure to another, and is easily restrained by fences which would prove no barrier against the encroachment of other farm stock. Its light tread and love of repose warrant its access to fields and pastures where tramping of cattle and tearing of hogs would not be tolerated. It wastes less food in proportion to the quantity consumed, and will hunt and utilize much that would otherwise be lost to the farmer.

Yielding a return in both fleece and flesh, it furnishes its owner with the double advantage of catching a good market for his product, requiring less water and disposed to work for its food. It is without a peer when summer's drought taxes the farmer's resources for enabling his live stock to maintain an average of thirst and flesh. All that can be said in behalf of feeding live stock on the farm, as distinguished from the soil impoverishing policy of placing the raw grain and grass upon the market, will be found to apply with double emphasis to the farm that carries as a part of its outfit, one or more sheep per acre. No other animal returns more fertility to soil in proportion to the amount exacted for its support, while none equals it in the evenness with which the droppings are distributed. Notwithstanding the evident advantages, an increase in sheep

culture brings the agriculture of a country generally, and especially inuring to the benefit of such farmers as incorporate it into their system, the fact is apparent that sheep are not so numerous or so evenly distributed as they should be.—*Breeder's Gazette*.

Look to the Lamb.

The near approach of spring, as indicated not alone by the calendar, but by the bright skies and high temperature that so generally prevail, will admonish the flock owner that the season for his early harvest is at hand. If he has not already provided such conveniences and necessities as will ensure the comfort and enhance the health and thrift of the lambs, upon which so large a proportion of his profit depends, he should lose no more time in perfecting such arrangements. A lamb once on his feet, and well filled with its mother's milk, has escaped one-half the risk of lambhood, and is ready to grow and thrive; while its less fortunate associates are overcoming the setbacks resulting from being chilled and hungry by reason of the oversight or carelessness of their owners.

At this time, the shepherd cannot be over-kind to the in-lamb ewes, provided his attentions are reasonably bestowed. Comfort they must have; luxuries, if such can be secured, they will well repay—such luxuries as an occasional run over the pasture on bright days, a chance to nibble in the rye field, with extra articles of food when these are within reach. These will give good tone to the system, encourage the secretion of milk, and in every way prepare the mother for the trials of maternity and the subsequent demands upon her while suckling a vigorous lamb. It is not enough to allow the breeding ewes to take their chances with the other members of the flock until weaning time, and then separate them for a change in treatment. If not kept to themselves all winter, they should be separated some weeks before the lambs are due, so that they may become thoroughly accustomed to their surroundings, and have the opportunity to reap such advantages as are promised by the change before the lamb appears.

A well sheltered sleeping place, with ample dry bedding, is an essential that should not be overlooked. Demanded at all times by considerations of economy and mercy, and so readily within reach of every farmer, the failure to provide it at this time is an evidence of negligence and short-sightedness of which an intelligent man should feel ashamed.—*Breeder's Gazette*.

Training Shepherd Dogs.

Darwin thus describes the training of shepherd dogs: "When riding it is a common thing to meet a large flock of sheep guarded by one or two dogs, at a distance of some miles from any house or man. I often wonder how so firm a friendship has been established. The method of education consists in separating the puppy while very young from its mother and in accustoming it to its future companions. A ewe is held three or four times a day for the little lamb to suck, and a nest of wool is made for it in the sheep pen. At no time is it allowed to associate with other dogs, or with the children of the family. From this education it has no wish to leave the flock, and just as another dog will defend his master, man, so will this dog defend sheep. It is amusing to observe when approaching a flock, how the dog immediately advances barking and the sheep all close in his rear, as if round the oldest ram. These dogs are also easily taught to bring home the sheep at a certain hour in the evening. Their most troublesome fault when young is their desire to play with the sheep, for in their sport they sometimes gallop the poor things most unmercifully. The shepherd dog comes to the house every day for his meat, and as soon as it is given him skulks away as if ashamed of him-

self. On these occasions the house dogs are very tyrannical and the least of them will attack and pursue the stranger. The minute, however, the latter has reached the flock he turns round and begins to bark and then all the house dogs take quickly to their heels. In a similar manner, a whole pack of hungry wild dogs will scarcely ever venture to attack a flock guarded by one of these faithful shepherds. In this case the shepherd dog seems to regard the sheep as his fellow brethren and thus gains confidence; and the wild dogs, though knowing that sheep are not dogs, but are good to eat, yet when seeing them in a flock with a shepherd dog as their head, partly consent to regard them as he does."

Pen for Breeding Sows.

Here is a plan for preventing sows from overlying and killing their pigs immediately after farrowing, which is the cause of great loss in the aggregate. The pigs are weak, and unable to get out of the way, and the sow in lying down, crushes or smothers them against the side of the pen. One farmer told me he lost a litter of twelve pigs in two days. The sow does not lie down on the pigs, but usually pushes them out of the way. To prevent crushing them against the side of the pen, mortice a four-inch scantling firmly into each side of the pen, one foot from the floor, and one foot from the wall. There must be no support from below, as the pigs would be as liable to be crushed against them. Scantling may be fixed into the wall on two opposite sides, and for the ends, mortice the scantling into the two side ones, one foot from the wall. Fourteen days after farrowing the rails can be removed. Never leave the feeding trough in the pen, but remove immediately after feeding. Do not give long litter, as the pigs get entangled in it. Short litter and little of it is best. If the above plan is adopted it will save the pigs, without fail.

POLLED CATTLE—The *New York Tribune* says: Only second to the high honors conferred on them at Paris in 1878, were those won at the last London Fat-Stock Show of the celebrated Smithfield Club, where the champion prize for best animal, (in competition with Shorthorns, Herefords and cross-breds), was accorded to an Aberdeen or Angus heifer thirty-two months old, her winnings aggregating \$1,000, and the "Sweepstakes premiums" to cow and steer of the same highly useful and increasing popular breed. The latter is under three years; his coat and hornless head are characterised by The Agricultural Gazette as "charming;" while another enthusiastic journal describes the champion as "not big," but very excellent in all respects, even-topped, round as a barrel, very fine-boned, of grand quality, having superb shoulders and bosom.

PURCHASE OF ANOTHER FINE JERSEY—Mr. Samuel M. Shoemaker has purchased from John I. Holly, Plainfield, N. J., on terms which are not announced, the Jersey cow Miss Muffitt 9907. She is by Major Domo 2161, by Imp. Autocrat 1065, out of Imp. Meg 673, out of Ruth 487, imported by Thomas Motley. She is between three and four years, and is a solid gray with a black switch.

SALES OF STOCK—Mr. E. B. Emory, Queen Anne's Co., Md., has sold the following Shorthorns: To G. A. T. Snouffer, Adamstown Frederick county, Md., bull calf from Barrington Bates 12th by Airdrie Duke Sycamore for \$200, and Belle of Lynwood, a yearling heifer for \$150; also Miss Renick Roulette 3d, sired by Imported Grand Duke Geneva 28750, dam Miss Renick Noyubee for \$200. The last named was exhibited at number of the Fairs in Maryland last year and won many prizes.

Veterinary.

"Wolf's Teeth" and Lampas.

The so called wolf tooth in horses is a small rudimentary tooth, situated immediately in front of the grinders or molar teeth, and in line with these. Ordinarily this supernumerary tooth is shed simultaneously with the milk teeth; but sometimes it is retained longer. Accidental diseases of the eyes are not unfrequently attributed to the presence of wolf's teeth. This is an error. The only inconvenience caused by these teeth occur when they diverge from their normal straight position, when the point may cause soreness of the cheek or of the tongue. Eventually, the wolf's teeth would, by natural action, become quite absorbed. Should, however, any inconvenience occur from their presence, they should be removed. This can easily be done by a pair of small forceps. The usual method of punching them out with a chisel and hammer, not only causes unnecessary pain to the animal, but the gums and neighboring teeth are apt to be injured thereby.

During the process of dentition, the gums are often subject to an affection designated lampas, which may be said to consist of a tumid and inflamed appearance of the palate, and is no doubt in most cases the direct result of the irritation set up in the teething process. Lampas is, however, an affection not by any means confined to the young horse; it is often seen in the aged animal, although not in so great a degree, or showing so much inflammation; it may then be the result of a kind of chronic irritation, or of indigestion. Very often, however, lampas in the horse's mouth depends for its existence on the fertile imagination of the owner or the groom. Many of the latter, directly a horse is off its feed, at once rush to the conclusion that he has the lampas; they open his mouth, imagine the bars of the palate are swollen, and at once take the horse to the blacksmith or the horse doctor to have them burnt down. This operation is just a varied form of vivisection, unnecessary in character, devoid of benefit, and cruel in the extreme. Any man, whether veterinary surgeon, or horse owner, who allows such a vile practice to be carried out, ought to have the hot iron applied to the posterior part of his person. If the palate is really swollen, relief can be obtained by scarring with a small lancet; and, if necessary, cooling medicines may be administered. This is the best, the easiest, the most humane and sensible treatment.—*Prairie Farmer*.

INDIGESTION AND SCRATCHES IN HORSES—For indigestion give the following:—Blood root, mandrake, gentian, liquorice, ginger, lobelia, each 1 oz.; nitre, 3 oz.; sulphate of iron, 4 oz.; sulphur, 6 oz.; sassafras, 3 oz. Mix and powder. Dose, 1 oz. a day in a pint of flaxseed jelly. For scratches give the above powder and the same amount; then take the water that potatoes are boiled in and wash the limb clean once a day. Then apply this ointment:—Sulphuric acid, 2 drachms; belladonna, 1 oz.; laudanum, 1 oz.; aloes, 1 oz.; sulphur, 2 oz.; lard, 6 oz. Stir well and apply.

Carroll Co., Md., Agricultural Society.

The following officers, all the old incumbents, have been elected for the ensuing year: President, Col. Wm. A. McKellip; Vice-president, David Fowle; Secretary, Francis H. Orendorff; Treasurer, Richard Manning; Directors, Jeremiah Rinehart, John B. Boyle, Edward Lynch, Dr. Jacob Rinehart, and Wm. J. Morelock.

The Hamilton (Va.) Telephone says: THE FARMER is just the paper for the agriculturalists of Virginia, as it is especially adapted to their interests.

J. E. S., Marion County, W. Va., says: "I am pleased with the change, and think the old AMERICAN FARMER is better than ever."

"THE FARMER is a good friend to me," says A. S., a subscriber in Greenbrier county, W. Va.

Poultry Yard.**Will Poultry Pay?**

Yes! There is nothing on the farm that can be made return as much net profit if properly cared for as poultry. They should be provided with quarters that can be made comfortable—warm in winter, and well ventilated in summer. These requisites should be observed in constructing houses, as success in getting eggs in winter depends upon the warmth of the building; and the health of the flock in summer upon the ventilation. As I have succeeded in getting eggs all winter, and in making a profit of twenty dollars per annum on fifty hens, it might be of some interest to the readers of THE FARMER to know the *modus operandi*.

My building is 12x22 feet, 8 feet to square, with roof and 5 feet ventilator foot blinds, one eight-light window on north side, and one six-light window in each gable end; 12 feet of the south side is covered with sash 6 feet long, at an angle of 45 degrees.

In winter the windows are left in, and taken out in summer, and wire screens used in their place. The sash on south side are removed in spring and used for hot-beds. Sliding doors take their place, and are left on all the summer. There is also a sliding ventilator over these sash which can be opened or closed at pleasure. The house is lined inside with roofing felt, and whitewashed spring and fall to keep out the air in winter, and vermin in summer. The roosts are supported by four pieces spiked to the rafters, do not touch the building in any other place, this being done to prevent the lice from getting from the building to the roosts so easily.

This house can be kept warm in winter, be perfectly ventilated in summer, and is comparatively vermin proof. I feed on buckwheat, screenings, corn, and scraps from the table; give plenty of fresh water and ground bone. The fowls are kept in on wet and cold days, and not allowed to get wet and chilled.

The house cost \$75, which may be considered too much by some, but it will pay a good interest on the investment, and be a useful permanent improvement on the farm. After considerable study and inquiry, I adopted this plan, and find it combines the important requisites necessary to success. Poultry could be kept at a profit on every farm, and would furnish eggs the year round if they were provided with good quarters.

W. E. MANAKEE.

Montgomery Co., Md.

Manner of Feeding.

A correspondent of the *Poultry Yard* gives the following advice:

The poultry keeper who supposes his fowls are properly fed because he sees grain upon the ground before them at all hours, and who bestows upon them no further care about their feeding, commits the greatest error. Over-feeding is a far more common error than under-feeding. A hen is more subject to disease, and produces less eggs when fat, and if very fat will entirely cease to lay; so that there is a double loss through over-feeding. Fowls must, however, be well and regularly fed.

As to *quantity*, the rule should be to give fowls as much as they will eat *eagerly* in about ten minutes, when the food which is not eaten should be removed, and no more given except at the regular feeds three times a day. This applies to fowls both in confinement and at liberty. Where they have space to run and forage for themselves, the mid-day feed should be omitted.

Soft or ground food should be given early in the morning, one light feed of soft food in the middle of the day, and grain should always be given before the fowls go to roost at night. After the long night's fasting, soft food in the morning satisfies their immediate

wants; while if grain be given in the morning, several hours must elapse before it affords nourishment. Grain given in the evening on the same principle prevents hunger through the long night better than soft food and also helps to sustain warmth. This system of feeding is oftener reversed than otherwise, through the convenience of giving the scraps from dinner at night, and some writers recommend this reversed course. We prefer the former plan for the reason given; but those who prefer the latter should not fail to give some soft food with the grain in the morning, especially after the long nights of winter, in order to afford the immediate nourishment so essential after sixteen hours fasting.

Soft food should be given warm (not hot) at all times, and more especially in winter. Meal should always be mixed with boiling water, which partially cooks the food. A common error is to make the food too wet and soft, in which state it becomes injurious to the fowls, compelling them to take more water than their nature requires. It must be *very dry* when mixed so as to roll into balls and *break into pieces* when thrown on the ground, and never so wet as to stick to the surface upon which it is thrown.

Salt, if given at all, must be used very sparingly, as too much of it is injurious to fowls. It is a bad plan to feed fowls in a trough or pan, as they eat too fast and the timid ones are driven away and do not get their share. Grain should be thrown on the hard gravel and well scattered, so that the fowls must run after it. Soft food should be given upon smooth boards kept for the purpose, which should be washed often enough to keep them always sweet and clean.

It is best to place the boards some distance apart, and compel the fowls to run from one to the other back and forth—the oftener the better—as the food is thrown to them a little at a time. No plan is so objectionable as that of placing all the food in one place so that the fowls can feed without moving; this may do for fattening but not for health and good condition. We need hardly give a caution against throwing the food on muddy ground, for mud—as we have before intimated—is a thing that should never be seen in the poultry yard. Feeding fowls on muddy ground is apt to cause them serious injury by compelling them to eat their own excrement which is generally mixed with the mud in their yards. It is an excellent plan, especially in winter, to strew grain upon a floor well covered with finely cut straw, so that the fowls will have to *work* in order to obtain it.

Regularity in feeding is very essential; fowls are creatures of habit, and when they become accustomed to regular feeding and expect it at certain times, will go in search of food if they have the liberty to do so, and obtain much more than they otherwise would. It is likewise a good plan to feed them in *their house* in winter; they will then be more inclined to resort there, thus avoiding the cold, promoting their health and increasing their laying. If fed about the door as is often done, they will stand about beginning in the cold for hours, and suffer in consequence. We are, of course, supposing their house to be a fit habitation for them—warm, dry, light and clean.

GUINEA HENS.—If a man can stuff his ears with cotton, or move out on the prairie where he has no neighbors, it will pay to keep a few guinea hens. They lay more eggs than the common fowl. It is also claimed that one of them will keep half an acre of potatoes clear of beetles, etc., and at the same time answer the purpose of a barometer in predicting the changes in the weather. They are good eating and very pretty. Don't buy old birds unless you want to hunt the neighborhood high and low for them every evening.—*Am. Stockman.*

Horticulture.**The Orchard and Fruit Garden.**

Because of the failure of a fruit crop last season with the larger portion of our readers, orchards in some instances did not receive the attention they otherwise would; and consequently are not in as good condition as is estimated to ensure the development of fine fruit in the event of a crop the present year. When such is the case, the orchard, or portions of it exhibiting a lack of vigor and thirst, which can be determined by the growth of wood during last year, a little extra effort should be made to keep such trees in regaining their former vigor with as little delay as possible. As soon as the soil will admit of plowing, put it in order to receive whatever manure or fertilizers can be spared. If stable manure is available, broadcast after plowing; if ashes or artificial manures are used, the drag-harrow or cultivator should be used after such application in order to have their effect on the trees as early in the season as possible. True, this expenditure of labor and outlay for manures, is on the presumption that there will be a crop this year; but in the event of another failure, and possibly this may be the case, though it is scarcely probable, then there is loss sustained by unnecessary outlay (?), says the close calculating reader. But more liberal reasoning places it on the side of *gain*, in that it promotes vigorous and healthy growth of the trees, which ultimately must pay better than stinting. We know many peach growers, who twelve years ago, were impelled by their faith in the profits of this industry, to plant the greater and better portions of their farms in orchards—who have lived to see the error of limiting themselves to but *one chance*, and have within the last few years greatly reduced the number of acres appropriated to peaches, giving more attention and thorough culture to a smaller area, realizing much better profits proportionately. It requires administrative ability of no mean standard to properly manage in every detail a peach orchard of ten thousand trees, and he who attempts it with no better backing than mere enthusiasm, will sooner or later find that he has an elephant on his hands. Much better have but one thousand trees, with sufficient labor at command to meet the emergency when the throng and press of properly gathering a crop arrives, than to have ten thousand and be a couple of days behind in the work entailed thereby. In brief, plant no more fruit of any kind than you are certain, beyond a doubt, you can cultivate, care for, and market in the best order, with a selection of eight or ten of the best varieties, covering the season from first to last. Grafting can be performed during this month, especially of the cherry, which is usually attended with better success when done before the buds have swollen much. We need not enter into particulars in describing this operation, as it is a simple one, and has been repeatedly illustrated in the columns of THE AMERICAN FARMER. Grafting, when carefully done, is an easy and quick way of converting inferior kinds of fruit into the best and most profitable. Apple, pear, plum and cherry, that a fair trial has proven to be valueless, can by this method be brought into bearing fruit of the most desirable varieties in three or four years. It is better, in grafting trees of a bearing size, to graft only a part of it first, giving the tree a year to recover from the shock produced by lopping off the branches; then proceed with the other half the spring following.

In the fruit garden as the soil dries off, and the weather falls into spring behavior, it will be proper to notice the mulching on strawberry beds, and when spread too thickly on the plants a portion of it may be renewed; but it will not be safe to go too far in this direction this month, as March is "too *sunburnt in hot ways*" to be depended upon.

Grapes can be staked and tied up neatly; so also raspberries and blackberries where this plan is pursued, though we prefer kinds strong enough in their habits of growth to support themselves, and this nearly all of them will do properly, if pruned as they should be. A portion of the older wood in gooseberry and currant bushes can be renewed with benefit to remainder. To grow fine fruit either in the garden or orchard, requires a liking for that employment, supplemented by energy and intelligence.

Root Pruning.

The experiments were made on the apple and pear. A vigorous apple tree, eight or ten years old, which had scarcely made any fruit buds, has done best when about half the roots were cut in one season; and half three years later, by going half way around on opposite sides in one year and finishing at the next pruning—working two feet underneath to sever downward roots. It has always answered well also to cut from such trees all the larger and longer roots about two and a half feet from the stem, leaving the smaller and weaker ones longer, and going half way around, as already stated. The operation was repeated three or four years later by extending the cut circle a foot or two further away from the tree. By this operation unproductive fruit trees became thickly studded with fruit spurs, and afterwards bore profusely. This shortening of the roots has been continued in these experiments for twenty years with much success, the circle of roots remaining greatly circumscribed. The best time for the work has been found to be in the latter part of August and beginning of September, when growth has nearly ceased, and while the leaves are yet on the trees, causing greater increase of bloom buds the following year than when performed after the leaves have fallen.—*London Garden.*

A Rustic Garden Seat.

We give an engraving of a rustic seat attached to a tree. A favorite shade tree on the lawn may be surrounded with seats, so attached that one in sitting may lean against the trunk. The position of such seats is



worthy of consideration, and as they are mainly intended for use in hot weather, they should be amply shaded. A position should be chosen that commands a good prospect, if not of a distant landscape, then of the beauties of the lawn and flower garden; some, at least, should be screened from observation by shrubbery—fragrant if possible, where we may read or work.

A very pretty seat can be formed around even a small tree. Seats of this kind need not be expensive, but something easy, graceful, fantastic, rustic, cheap, is appropriate; something that the sunshine or wind will not harm, or leave its beauty destroyed by the rain. The materials for such seats are nearly always at hand—at least on every farmer's premises. All that is required is a little taste, a little skill and patience to construct them. The branches of the trees may be bent and shaped into tasteful chairs, and any desired form given them.

Palms for Decoration of the Dwelling or Garden.

This family of plants is coming into general use for decorative purposes, and I give a list of such as are more or less adapted for that purpose. Their stately but graceful forms and tropical appearance always make them interesting.

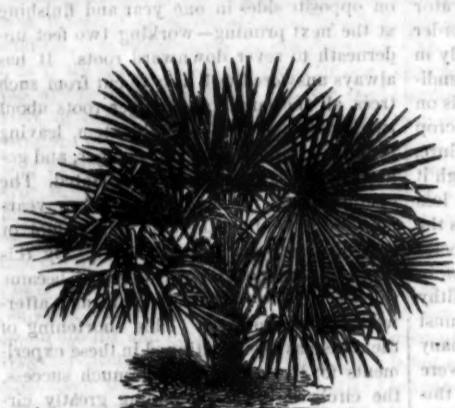


LATANIA (LIVISTONIA) BORBONICA.

Latania (*Livistonia*) *borbonica*. Leaves large, fan-shaped with pendant segments on margin. Petioles four to five feet long, (on plants fully developed), armed with short reflexed spines. This plant is eminently adapted for parlor or window decoration, and may be used for the embellishment of the lawn, or in vases during summer, if placed in a situation partly shaded.

Chamaerops *excelsa*. Leaves fan-shaped, smaller than the above; deeply divided into segments which stand erect; color dark green; petioles three to four feet long, edged with very short teeth-like spines.

This palm attains a height of forty feet; the stem is covered with dark hair-like fibers. It flourishes in a low temperature, and bears exposure to the sun tolerably well. Chamaerop *humilis* is a very neat representative of this genus—habit dwarf.



CHAMAEROPS EXCELSA.



PRITCHARDIA PACIFICA.

Pritchardia (*Brahea dulcis*) *pacifica*. Leaves large, nearly circular, deeply incised, and covered with long thready filaments, which render it very distinct and striking. The tendency of the leaves to become yellow at the point, is rather against it as a decorative palm. Native of Mexico. For general decorative purposes, I prefer some of the Date palms, notably: *Phoenix tenuis*, *P. Canariensis* and *P. pumila*; these I have tested in the full sun, and they retain their rich verdure under the most trying conditions; they may be planted or plunged on the lawn, or in flower beds.

WM. FRAZER.

Patterson Park, Baltimore, February 22, 1882.

Window Gardening.

In this, one hardly knows where or with what to commence. Tastes naturally vary so greatly, to which must be added the difference in opportunities, capabilities, etc., of those who have the subjects in care. If we consider first a few varieties of plants adapted to window culture, under the most widely differing circumstances, we would place first on the list the "Calla Lilly," and one great advantage possessed by this, especially for beginners, is that it cannot, if potted in proper soil, be over watered. The leafage is good and the flowers lovely and pure. For a variegated foliage, plant the "Aspidistra *lurida variegata*"—a great deal of name, but not difficult of pronunciation, is the best plant of our acquaintance. It will endure more hardships in the shape of neglect, etc., than any variegated plant we know of. The next on the list we would place "Pandanus *Utilis*" or "Screw Pine," the latter name being as most of your readers are aware in allusion to its spiral habit of growth. Some varieties of Palms are also well adapted to the purpose, one of the better kinds being "Livistonia *Borbonica*," and were we not desirous of confining ourselves to medium priced plants, would add "Cycas *Revoluta*;" and then for those who like the style of plant, we see no reason whatever why "Imantophyllum *Miniatum*" would not succeed admirably as a window plant. With the exception of the latter and "Calla Lilly," the plants mentioned are grown for their foliage.

If these ingredients are well mixed, and permitted to lie in a heap from six to twelve months, it will be fit for the growth of any plant mentioned in this paper, and of any other usually grown by window gardeners. In potting plants, those having hard wood as roses, etc., should generally be potted firmly. Soft wood plants as geraniums, etc., should be potted more loosely. A sharp rap or two on the potting bench, with the bottom of the pot, to firm the soil is pretty much all that is needed, and whatever may be said by florists about drainage being unnecessary in the bottom of the pot, we say that for this purpose

make when young? For instance, the "Retinospora *Juniperus*," "Thuya," etc., are all interesting and pretty when young.

We do not wish to be understood as ignoring our steadfast old friend the "Geranium," nor any other old favorite, but mention others to show the varied forms of plants and flowers that are as well adapted to the purpose, as those which have so long held the post of honor in the hearts of our "window gardeners."

There are a few words to be said about the necessary skill to grow plants under unnatural conditions. Proper soil is difficult to obtain near cities; it is therefore preferable to obtain it from some skilled plant grower away out in the country, good soil may generally be had for the trouble of getting; three (3) barrow loads of sod, cut about two inches thick; one of well decayed manure, (dry cow droppings will do admirably) and one of thoroughly decayed leaf mould, obtained from some place in the woods where leaves have accumulated and decayed for years. This is somewhat dry and light, and may be carried in a bag.

If these ingredients are well mixed, and permitted to lie in a heap from six to twelve months, it will be fit for the growth of any plant mentioned in this paper, and of any other usually grown by window gardeners. In potting plants, those having hard wood as roses, etc., should generally be potted firmly. Soft wood plants as geraniums, etc., should be potted more loosely. A sharp rap or two on the potting bench, with the bottom of the pot, to firm the soil is pretty much all that is needed, and whatever may be said by florists about drainage being unnecessary in the bottom of the pot, we say that for this purpose

the pots should be well and carefully drained, so that surplus water may pass off readily, as very few plants except "Aquatics" will remain in a healthy condition in a "water-logged soil." Our reason for calling attention to plants of the habit and style of growth of "Pandanus," etc., is because it often happens that a plant or two may be grown, when it would be out of the question entirely to grow a dozen, and if one or two can only be had, they should be conspicuous and good. For instance, say "Pandanus," in the centre, on one side "Aspidistra," and on the other "Maranta;" of course we merely suggest this, not by any means as the best combination, but just to show the idea. It may be varied at pleasure with "Palms," "Calla Lilly," etc., etc. We cannot help thinking that this style of window gardening would give satisfaction and pleasure, even after something else has been tried and found wanting. N. F. F.

Everlasting Flowers and Grasses.

Messrs. Editors *American Farmer*:

To those who wish to make home beautiful during the winter season, we would suggest that a few packages of seed of the different kinds of everlasting flowers and grasses be obtained and sowed this spring. Of the flowers, we would say this class of plants have become very popular, not only for their bright colors during the summer, but their power of retaining their colors makes them desirable for making up winter bouquets, wreaths and Christmas decorations. They should be cut when they first come in bloom or before the flowers get too old and lose their brightness; tie up in small bundles and dry slowly in the shade, with the flower downward to keep the stem straight. Of the first and best is the *Helichrysum monstrosum*, mixed, growing from two to three feet high; *Helichrysum nanum* in varieties; *Gomphrena* in different varieties, of which the *Aurea superba* takes the lead as being the most showy; *Xeranthemum* in varieties; *Statice* and *Acrolinium* in varieties; and different other varieties which may be obtained from any reliable seedsman, are easily grown, making the garden cheerful in summer and the house the same in winter, with very little trouble.

Grasses form a beautiful and attractive addition to the flower garden, their graceful forms and attractive green colors give a pleasing relief to the brilliancy of the more showy occupants of the flower borders. For winter bouquets they should be cut before they are too ripe, hung up and dried the same as the everlasting flowers. There are a great many different varieties of grasses. I will mention only a few of the best: *Agrostis*, *Avens sterilis*, *Briza*, *Bromis briziformis*, *Erianthus ravenneae*, *Eulalia japonica*, *Glycerium*, *Hordeum jubatum* and *Stipa*.

R. VINCENT.

Baltimore County, Feb. 20th, 1882.

Hardy Herbaceous Plants.

At a recent meeting of the Massachusetts Horticultural Society a discussion upon the subject of "Hardy Herbaceous Plants and Their Culture" brought out the following points:

As it is desired to continue the growth of herbaceous plants through the season, and if we can do this by deep digging, we can get flowers through the season. The object of the plant is to perfect its seed; but we do not cultivate it for its seed, and if we can keep it from perfecting the seed it will bloom all the season. This is the principle on which the practice of cutting of flowers to prolong the bloom rests.

Under the best methods of culture experts insist upon digging deep and manuring well. The object of digging deep is to give room for the roots and provide moisture. Plants are like animals; they cannot be expected to

grow without anything to feed on. Digging deep is the foundation of all good culture. One florist claims he would rather have the ground trenched two feet deep without manure than to have it dug shallow with manure. In England the market gardeners trench the ground every year for almost every crop.

An account of a most satisfactory bed for shrubs and herbaceous plants was given as follows: The soil was trenched and a liberal quantity of well-decomposed manure worked in. In the back part deutzias and Josieka Ilacs were planted, and in front of them hydrangeas in groups. The spaces between these were still more enriched, and castor oil beans planted, which gave the border a sub-tropical appearance. In front of these were phloxes, lilies, and still further in front aquilegias and plants of similar growth. The soil was naturally moist, and plenty of water was given, especially to the phloxes. Other beds, prepared in the same way, but where no water could be given, showed a vast difference. Herbaceous plants are interesting from early spring till the frosts of autumn, and, unlike bedding plants, always afford flowers for cutting.

Amongst the most desirable plants are hollyhocks, phloxes, double pyrethrums and spiraea. The native asters are very beautiful under cultivation. The fraxinellas are old but desirable. The markings of some of the irises are as rich as many of the orchids. A bed of irises and lillies works well edged with hepaticas, or moss and hybrid perpetual roses, and with these may be planted spring flowering bulbs, which will bloom before the roses. Herbaceous plants should have time to rest, and that the buds at the base of the shoots should be well ripened. In too rich a soil the buds will be soft. They need a soil that will hold moisture. It is only since the introduction of the coleus, alternanthera and variegated pelargoniums that bedding has become fashionable. We must rely on herbaceous plants as much as ever if we want flowers early in the season. They are easily raised; two dollars worth of seeds will give a mass of bloom in two years. A little protection is important in winter—a few leaves or some strawy manure will answer; without protection newly planted ones will be apt to be thrown out, though some are so hardy as not to be destroyed then.

Soils of varying character demand different treatment. The great point is to provide a supply of water, which is the life-blood of plants. Water comes both ways—by rain from above and by capillary attraction from below—and by understanding this principle we can judge whether a soil needs trenching. If the soil is loose and gravelly, so as to allow water to come up from the subsoil, it need not be dug deeply; but if clayey and compact, it should be stirred deeply. If the surface is kept loose in dry weather it not only acts as a mulch to the portion below and prevents the escape of its moisture, but if stirred towards night it absorbs the air which gives off its moisture to the soil. If the plant gets plenty of moisture it is easy to supply everything else, but without water you can get nothing.

Kitchen Garden—March.

A year ago at this time we were looking forward to good crops as a consequence of the drought of 1880, and, as far as early crops were concerned, we were not disappointed. But the drought of 1881, was so much more severe, that we have now still greater reasons to anticipate a productive season as part compensation for the loss of capital in the shape of fertilizers sunk in the soil. Everything soluble must now be thoroughly dissolved, for we have had abundance of rain, and the land must be in unusually good condition for spring work.

What can we do to mitigate the effects of those ever recurring drouths? Irrigation on our hills, I judge to be impracticable, even if water were plentiful and convenient. If the flats are to be watered, it is plain that the water must be stored in cisterns and applied with hose as is done in the market gardens of Paris. Now it strikes me that if there had been any prospects of making the plan profitable here, it would long since have been attempted at Boston and New York, where competition is at its best, so that the prospect of relief by any process of irrigation is not very encouraging. Deep plowing, abundant manuring, frequent stirring of the surface, and mulching where practicable, must be our main reliance. The turning down of rye or clover as stated in a back number, is also no doubt excellent for retaining moisture. Celery with me cost more in watering than the value of the crop. I hope another year to be able to mulch it, which I think would be a great benefit.

From what I saw the past winter of celery stored in cellar, I think it will prove an excellent plan for this latitude, but it will require to be tried cautiously. Mine was put in the cottage cellar, which could not be kept cool enough. I am now preparing a roofed pit, out-doors, of the rudest kind, large enough to hold the crop. It blanches beautifully without a blemish of any kind. The farmer can now draw a double furrow in July, half fill it with *well-rotted* manure, level the ground, plant six inches apart, hoe occasionally, mulch and water in drouth, lift in November and set on the table at Christmas. That is the whole process, and many may now have a treat who never indulged before. But observe: not having been earthed up, it will not grow so erect, and may not suit some of our markets, though for private families that is of no consequence. The Boston branching celery makes a handsome appearance blanched in this manner. I am of the opinion that on earthen floors the boxes would be better without bottoms, but I am not certain, and do not want to mislead.

We now commence active out-door work. If calculations have been made ahead, there will be no hurry or confusion. There will be a place for everything in the garden, and everything in its proper place.

If good, fresh onion seed can be had, this crop can, almost to a certainty, be raised to full size the same season, by a timely thinning of the plants in the rows; and this should be one of the first vegetables sown. There will be great emulation to have early vegetables this year on account of the general scarcity. Happy they who have monster heaps of *well manipulated* manure! We are told that this and that crop will run to vines if too highly manured. I have no recollection of such a thing just at this moment. There is more danger of that by a failure to give the plants room to grow.

In planting early potatoes try flat culture. I have got so used to hill and drill culture, that I quite forgot that *flat* culture is the culture that is practised where I was brought up, and wherein some cottage gardens potatoes have been successfully cultivated on the same plot for fifty years in succession. The ground is manured, spaded and the seed dibbled in. Of course I do not favor such methods here, but flat culture ought to be even better adapted to our dry climate.

Early spinach, peas, onion sets, turnips and radish are articles that should go in as soon as the ground is dry enough to work. Also small fruits of all kinds. I propose to plant my strawberries three feet between rows, and a foot apart in the row; after first fruiting, every second plant to be thrown away; runners to be kept off. In small gardens the rows should be much closer.

It would be advisable to grow certain kinds of flowers exclusively in the kitchen garden. What more unsightly than a bed of monthly roses with the buds nipped off as fast as

they appear? The flower beds should be filled with plants that would bloom undisturbed, and "cut flowers" taken from a less convenient place.

The hot-beds and cold frames will now claim much time and care. It is difficult to give directions, but it is safe to say they should be fully occupied with *something* until the weather becomes so warm that they can no longer be managed. Try to grow tomatoes in various ways, and note the results. It was a new and valuable fact to me as stated by Mr. Massey, that lettuce can be successfully grown in winter with no covering but the sash.

JOHN WATSON.

Fall Gardening—Advancing Spring Crops.

Messrs. Editors American Farmer:

My last summer's work was for a time entirely suspended, due to the financial embarrassment of Mount St. Mary's College, and for this reason I am unable to give the promised report of our celery crop, grown after both plans so often discussed in the columns of *THE FARMER*, or, in fact, of any garden crop except that one ever ready to succeed when labor is withheld, I mean weeds; and as most of us have had bitter enough experience with these, I will only say that when the College resumed operations it became our first labor to eradicate them; and the hay wagons preceded by the mower, were followed by the manure carts, succeeded by the plows, and soon our garden was again ready to grow something useful, and that in time for fall cropping.

Now, as there is nothing to report of last year's gardening at this place, I thought it might interest some of your readers to learn how we progressed with our fall work, and as I do not propose to enter into full details of all our operations, little space will be required for the statement. Of course we sowed kale and spinach, cabbage and lettuce seed for plants to winter in cold frames, and some to plant in the open ground; also a small quantity of cauliflower, for we prefer to sow this in January in greenhouse or hotbed, and here we might have stopped, but thinking early potatoes and peas would be a welcome dish as soon as it was possible to have them, we concluded to start in time, and accordingly planted a quarter of an acre to early rose potatoes, and in this way: the land was manured, plowed and harrowed; the rows were made three feet apart, and six inches deep by harrowing a barshare plow twice in each; the tubers were cut to two and three eyes, dried in plaster, and then dropped at intervals of about fifteen inches in the row, the covering being done with a corn fork, minus the third shovel; this covering did not nearly fill the furrow, and when there was danger of the ground freezing, we again had recourse to the barshare plow, this time running up and down each side of the potato rows, throwing the soil into ridges over them, thus leaving the ground as if it had been prepared for sweet potato plants. The planting was done about the middle of November.

Now as soon as the soil becomes dry enough to work in spring, we propose to run the harrow over this patch, and during the growing season, endeavor to keep it clear of weeds without throwing any earth to the plants, if there are any; however, we have reason to believe they will put in a timely appearance in the spring, for about the close of December we searched out a dozen tubers which then showed healthy sprouts about an inch long.

In regard to the peas: Having a generous supply of seed on hand, we concluded to take the chances of losing sufficient to sow a quarter of an acre, and in persuance of this perhaps unwise choice, about the last of November sowed "Carter's first crop" in rows, five inches deep, and three feet apart; of course we calculated the winter to set in,

and that these peas, if they did not rot in the ground, would gladden our eyes by the appearance of their green tops just about the time of sowing peas in the spring; judge then of our surprise when in passing one day late in December, to find that the two hundred foot long rows could be distinctly seen with the eye, a line of living green.

In January we were visited by one extremely cold night, the thermometer indicating one degree below zero, and followed by heavy snow storms, during which time we did not get to see the peas, but felt tolerably certain that the one cold night had blighted that living green line as surely as it had destroyed our hope of having very early peas. However, after looking at the patch to-day, we find there is a goodly quantity of the plants remaining, a decisive proof that peas will endure thirty-one degrees of frost.

I forgot to mention the onion crop which we invariably put out in the fall; last September we planted nearly half an acre with sets; but I will have more to say of this crop another time. The cabbage worm has kept us busy all winter trying to keep it off our cold-frame plants, and a half dozen were found upon our greenhouse lettuce. Our lettuce has done wonderfully well, the College tables having been constantly supplied from the first of November, and the hot-bed lettuce is rapidly coming on.

CHAS. E. SANFORD,
Gardener Mt. St. Mary's College.
Frederick Co., Md.

A Clod Crusher.

Take two pieces of wood, two by six or eight, and round the end of each with your ax; nail boards six feet long and 1½ or 2 inches thick on the bottom, in such a way as appears in the cut, bevelled and lapped.



Bore two holes at the head with a half-inch bit; take eight feet same sized rope and tie a loop in the middle; put ends through holes and tie a knot in each to keep it there. Once going over with the driver on the crusher will be sufficient in most cases and the land will be finer than you could harrow it in many workings.

Good Practice in Garden Management.

Every farmer has noticed how the hens will pick and eat the green wheat plant through the winter when a field is sown near the barn, where the poultry can get at it readily; and another thing he has seen is, that when for any reason a field that was sown to wheat had to be ploughed up for planting ground, it was unusually mellow, friable and free from weeds. Acting on

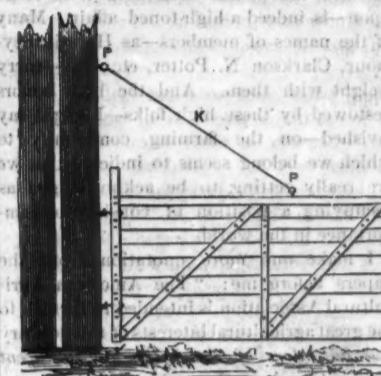
these suggestions, I have for years made a practice of planting, say one-half of the garden with all those plants, such as early corn, potatoes, peas, and the like that ripen early, so the ground could be cleared off and sown to rye, or oats or wheat, either or all as one chooses, sowed from the middle of August to the 1st of October, only the earlier the better. This will make a dense growth, keep the ground light and clean, and in the spring, leaving it to plant the latest, will give a good growth to plough

under as green manuring, which gives a clean piece of ground and very easily worked, for the other half of the garden; while the other half is managed as that was the year before, thus rotating with a two years' course, and so after renewing the land with such a green crop ploughed in, the sowing of this can be done just after cultivating

or dunging without the use of the plow, and is an excellent thing for garden management; besides, as it is always near where the poultry can get at it, I find they will pick and eat this green growth all winter and spring, when not entirely covered with snow; and I do not know of anything that is such an advantage to them as winter food, and causes them to lay so freely.—*Cor. Toronto Globe.*

A Non-Sagging Gate.

Large, or farm gates are liable to sag, and in a few years need a thorough repairing and straightening up. Many of this class of gates are hinged to a building or tree, and can be rendered non-sagging by a simple contrivance as shown in the accompanying cut. The



gate is shown hinged to a barn, about five feet from the upper hinge is driven or otherwise firmly secured to a post, a staple P, one is also driven in the upper side of the gate arm, three or more feet from the latch end. These are connected together by an iron rod K, three eighths of an inch thick. The staple attached to the building should be exactly in range with the hinges of the gate. This arrangement costs but a trifle, and if properly attached, the gate will never sag perceptibly. The plan of bracing the gate shown, is also a good one.

Tomatoes for Canning.

A subscriber in Calvert county, Md., F. O. C., inquires what is the best variety of tomato for canning, where seed may be had, and best time to sow it, etc.

The variety now most preferred by packers is the Queen. It is more solid than most others, ripens nicely all over, is of good size, almost as large as the Trophy, and regular in shape. It is a good producer, but rather late. The seed can be had from dealers in Baltimore. If an early crop is desired the seed should be sown in hot-beds at once; if for a crop in August, sow in open ground early in May. Though even for late crops it is preferable to sow in sheltered spots, or even under glass late in April, as the variety named is tardy in coming into fruit. A number of articles have recently appeared in our paper on tomato culture.

GAS TAR FOR POTATO BUGS.—A correspondent of the *Husbandman* has used during two years past, water impregnated with gas tar for the purpose of destroying the Colorado beetle on potato vines. It has proved more effective than Paris green, and has been used with equal effect on currant bushes. Two quarts of gas tar to a pailful of water are the proportions used, and the vines or bushes are sprinkled by means of a watering pot.

ONE of the best agents to assist us in the endeavor to prevent our soils baking is lime. Lime not only makes sandy soil heavier, but lightens heavy soil. It exerts an influence chemically that does much to overcome this difficulty. It causes certain changes to occur by forcing into existence new compounds, and its effects are lasting.

The Grange, argued to
Education in the Grange.
An Address before Montgomery County Grange
by W. H. FARQUHAR, Lecturer.

I received a letter last week cordially inviting me to become a member of the American Agricultural Society, which holds its annual meeting in New York city early in February next. No doubt several of you have received from the same source the letter and accompanying documents in which we are informed that "the *Journal* is by all odds the most useful agricultural journal in the world." This is large talk; but I think no one can read all the papers which set forth the claims of the Association without being satisfied that it has something solid to go upon—is indeed a high-toned affair. Many of the names of members—as Horatio Seymour, Clarkson N. Potter, etc., etc.—carry weight with them. And the high honors bestowed by these high folks—I might say lavished—on the farming community to which we belong seems to indicate that we are really getting to be acknowledged as occupying a position of considerable importance in the world.

I make one more quotation from the papers before me: "The American Agricultural Association is intended to furnish to the great agricultural interests of this country those advantages of organization and intelligent combination in action which, under more paternal systems than our own, are furnished directly by the Government." We all had thought this was just what the Granges were doing, or trying to do. Elsewhere, indeed everywhere, we have noticed of late, the evidences of increased respect being paid to the great business which is ours; evidence that farmers are stirring themselves and making a noise in the world. Even down in our little community of Olney and Sandy Spring—not that we are noted for thinking ourselves so very small—within the last two weeks, down in our modest country there has been two distinct demonstrations of the live interest felt in agricultural concerns. The one was a session of the monthly Olney Grange, rendered more than usually interesting by the presence and address of Worthy Master H. O. Devries; the other was what calls itself The Farmers' Convention. Both have one common object, "the improvement of agriculture," with some differences in the mode pursued. My observations made in witnessing the proceedings of these two interesting meetings produced reflections the expression of which may be appropriate to the duties assigned me as a Lecturer of the County Grange.

At Olney we had a large assemblage, 95 members counted, and several outsiders admitted, very properly, to hear Bro. Devries. His address was very good, in the judgment of all that I have heard speak of it. It was solid—went right down to the centre and foundation of our system. It made us all, or at least a number of us, feel some doubts whether we grangers have been doing our full duty of late. While speaking in rather complimentary terms of Olney Grange, in a general way, he did not hesitate to imply that we might lift the standard of the Order higher than we have done yet; and we liked him the better for his candor.

One of the strong points which he made was in reference to the Farmers' Convention that had appointed to meet two days afterward. Of course he did not say a word to deprecate the coming meeting. He was very willing to admit that all such meetings must be of good; but why, he asked with much force, why don't they all join the body of The Patrons of Husbandry? What is it that keeps them separate? The Grange has the same great object in view, with certain advantages added that cannot fail to attend organization and intelligent combination, as

the New York paper expressed it: "The truth is, the Farmers' Convention is a Grange minus a great many other good things besides a meeting. I would express the difference this way: 'the object of one is to improve the farms and farming; of the other, to improve *them* and the *farmer* too,' which is surely a very great addition. I have not a word to say against the late convention held at Sandy Spring; it was a collection of 150 men of the sort it does a farmer good just to look at; the proceedings were interesting, and the views and opinions expressed in a way to afford continual gratification, and not infrequently a jolly laugh through the whole assembly. Still, in comparing this farmers' meeting with the one so recently held at Olney, I could not help perceiving that some important feature was missing. Where was that section of the human race which has been so lively an aid to all our Grange meetings? No ladies at the convention? Yes, oh yes; the indispensable sisterhood was not very far off; and when we got hungry enough to want our dinner we found the blessed ones had not forgotten us, but had provided an abundant and most welcome feast; and we did them the honor, or, I should say, we paid them the respect, of allowing them to wait on us.

The sisters of the Grange wait on us too, but they also enjoy the opportunity of seeing and hearing what is going on, and joining in it to the common benefit. There is where we rise above all other associations. We aim to improve the farm and the farmer too. Knowing this great advantage, Bro. Devries was justified in putting the question with all his force: "Why, oh why, don't all intelligent farmers join our Order?" Who shall answer? I do not think any person can give a good reason. The Grange is to other farmers' associations as the steam thresher is to any of the old methods of getting out grain; but mind, also, the steam thresher is weak without the fuel to raise the steam. So is the Grange with only a few members. Once let all the men, such as attended the Sandy Spring convention, add their intelligence and number to our Order, and there will be fuel enough and steam enough to—I won't say *thresh* all the rest of the world—but to put some things down that ought to be down, and raise some that ought to be up.

Bro. Devries spoke of another very important matter, and gave some interesting information regarding the late meeting of the National Grange. He told us that the principal suggestion made there for the good of the Order was something to this effect: "We have relied too exclusively, they say, upon one foundation principle, viz: co-operation. That is much, is indispensable, but there is something of still more consequence. It is clear that if we place the welfare of the farmer above—as it should be—the improvement of the farm alone, we must regard education as the most important duty assigned to us." And we are told that the National Grange confessed that one great cause of the Order failing to increase as it ought to have done is neglect of putting first that which ought to be first in all plans or systems designed for the improvement of the human race. This information, as to the doctrine laid down by our highest tribunal, impressed me as something grand, and up with our professions and with the times. But what can we do about it? This County Grange cannot be accused of neglecting the subject of education. Indeed, I am afraid it must be confessed our worthy members of both sexes have got a little tired of it, and that is not very surprising.

I am free to declare, without apprehension of being charged with assumption or presumption, that the business of education, though most important, is the most mismanaged business in the world. There is money enough laid out in it, but the mode of using it makes it almost a failure. I will

refer to but one point to illustrate my meaning.

If you will reflect for a moment you will admit the chief object of literary (that is, school) education is to teach children how to read, because it is by reading, the knowledge of grown people is transferred to the mind of the child. If such transfer is not made there is no reading done. But it will be asked: Is not every child taught to read? I answer, not by a great many. He is taught how to read, but that is a very different thing from being taught to read. I mean this: For want of proper books and proper system a majority of children, according to my best observation, after learning school lessons don't really read the books or papers which would constantly pour a flood of intelligence into their minds. The one great cause of this is, they were disgusted with school lessons. I expect these assertions will shock many of you, but with wide opportunity to know something about it, I must say it is true, and there has got to be a great reform in the whole concern.

BALTIMORE COUNTY GRANGE will hold its regular quarterly meeting on March 29th, at the hall of Garrison Forest Grange, at Pikesville. A number of addresses will be delivered and subjects of general interest discussed. Fourth degree members, as well as delegates, are invited to attend.

AGRICULTURE IN THE SOUTH.

Its Needs and Opportunities.

By TH. POLLARD,
Ex-Commissioner of Agriculture of Virginia.
We premise that we are writing more particularly for Virginia and Maryland, and somewhat for the more northern of Southern States; not for the extreme South. Though much of what we have to say may apply to many of the States North and South.

The subject of "grasses" we were discussing in our last is one of extensive applicability. Very few are aware of the amount of the grasses and hay produced in the United States. The hay crop is estimated at not less than *three hundred millions of dollars* in value annually. Cotton and tobacco, tea and rice are confined to localities, while hay is produced, more or less, the world over. But cured grasses (hay) is but a portion of the grass crop, a great amount being fed off in pasture. The live stock in the United States is very numerous (we have not yet received the summing up of the census of 1880), and all this is supported by the hay and grasses, of which no account is taken in the markets. We should say all the stock except hogs, but are our readers aware that hogs will eat hay, particularly clover, if soaked in warm water, in the winter months? Such is the fact, and Northern farmers not unfrequently thus feed their hogs. Prof. Armsby in his scientific work on "The Feeding of Cattle" very naively says, hogs will not eat it as well as they will clover and some of the grasses.

Mr. Edwin Atkinson, of Boston, the great statistician and expounder of railroad economies, speaking of the cheap production of grain, and probably of tobacco, in the Western States, says, this is to be no disadvantage to the East, and thus far has only been an advantage, by furnishing to the Eastern States cheap supplies for their families and laborers and inducing them to go into more profitable industries, as grass, stock, dairying, fruits, etc. He says, the lands particularly of Massachusetts and New York have enhanced in value under these influences, and that these States are substituting grass, stock, dairying, and in a measure, fruits, for grain production, and to their manifest advantage.

Virginia, Maryland, and the more northern of the Southern States, must do likewise.

By Western grain and pork they may feed their laborers more cheaply, and employ that labor more profitably, furnished as they are with ready markets for stock, hay, dairy products, grapes and wine, for which latter Virginia is particularly favorable. We are already making better claret, as a rule, than do the French; of this we shall have more to say hereafter.

Hay being a bulky article, the West cannot drive from the markets the Eastern hay; and so of stock, which we can compete with the West in raising, on account of the cost of transportation and injury inflicted on the appearance, condition, and sometimes on the health of the animals transported.

From many points in Virginia and Maryland lambs can be placed in the New York markets in 24 hours or less. Our lands in most of Virginia and much of the South are depressed in price, and do not bring as much in market as before the war, and they will continue to be low as long as we attempt to compete with the West in grain and shipping tobacco. But our lands were low in middle and tide-water Virginia before the war, and that depression in price, let it be noted, has occurred in lands devoted to tobacco and grains exclusively, all of which require a large amount of labor. In Piedmont and the valley, where grasses and stock raising, and a mixed husbandry are prominent, lands bear an excellent price, and such is the history of the price of lands the world over. A farmer in eastern Virginia owning a farm of five hundred or a thousand acres is generally a poor man. He cannot usually sell it for more than \$10 per acre, and then it must have tolerable improvements. If we look to the Northern States we find much of such land selling for \$100 to \$200 per acre, and in England and France, or Belgium, or Holland, it would command \$400 to \$500 per acre. What is the cause of this great difference? Our climate is better than theirs, our land not naturally inferior, and theirs only made better by grass, sheep, and general stock raising and better management. The prices of their products are not better than ours, and generally not so good on an average. Their taxes are heavier than ours, and in Europe greatly more so, if we include the rent of lands, which almost every actual farmer has to pay. The range of practicable products is much less in Europe, and even less in the North than ours, for we can raise everything in Virginia and the Middle States that can be raised anywhere in the temperate zone. Our labor is scarcely more than half the cost of that of our Northern States, and while that in Great Britain is cheaper than ours, the difference is fully made up by the church and poor rates, and other burdens borne by the laborer of England. If all these things are in our favor, why is it that their lands are so much more valuable than ours? It is accounted for by facts connected with the subject we are considering. *In this country and in Europe land sells highest where grasses and hay are produced.* In England and Holland the best grass lands command as much as \$1,000 per acre. Holland, which it has been my good fortune to see, is almost one continuous plateau of meadow land, pastured on by fat cattle, which are kept within the owners' bounds by canals of water, broad enough and deep enough to prevent their passage. Few laborers are seen, and scarcely any needed, but to drive their cattle forth from their stalls in the morning and back in the evening. In Belgium, one of the most profitable agricultural States in Europe, much land is devoted to grass and cattle, and on a farm of 100 acres in grass their steady force is not more than two hands, extra force of course being required during grain and hay harvests, the former of which is an important crop in this country as well as the latter. We remember seeing on the field of Waterloo a magnificent crop of wheat, gracefully waving in the gentle breezes, with

everything around quiet and oblivious of the mighty and eventful storm of battle which once swept its plain, and decided the destiny of nations. In Holland very little grain is raised, and consequently the cost of labor is small.

Extensive grass culture in a country is a sure evidence of improved agriculture, and where grass is extensively raised we find a large number of sheep, cattle, horses and hogs, and these consequently produce a large quantity of manure, and where this is abundant there will be large crops of hay and grain, and the lands necessarily become valuable and increase in value. Beside the manure made from stock we must take into consideration the great improvement produced on land by turning under good sods of grass and clover, for this is equal in value to a full application of putrescent manures or commercial fertilizers. Mr. Howard, in his "Manual on the Cultivation of Grasses," before referred to, gives us an illustration of the improvement produced by turning under sod lands, and also of the profits of grazing. In the case to which reference is made Bermuda grass was used. Col. Lane in a letter to Mr. Howard says, "nearly thirty years ago I bought an old plantation near my place in Hancock, Georgia; it was bought low because infested with Bermuda grass (the same as our wire grass in Virginia). I permitted a man to use thirty acres, which were fully set in this grass. He had at the time a cow and calf, sow and pigs, and a brood mare. He cultivated a little crop of corn, but never enough to feed his family. His stock lived on this thirty acres of Bermuda grass, except for a short time during the winter, when they had access to other portions of the plantation. He remained on this place five or six years, and at the end of that time he had twenty-five head of cattle, seventy-five hogs and five horses. I offered him \$1,000 for his increase in stock, which he refused. So much for the value of Bermuda grass (and our wire grass, *Cynodon Dactylon*). I cannot give you a better illustration of the manorial value of this grass than by reference to the crops made on this land (this same thirty acres) after the man had left the place.

First crop, cotton, half stand, owing to the mass of undecomposed sod, 1,800 lbs. of seed cotton per acre. Second crop, 2,800 lbs. of seed cotton per acre. Third crop, corn, 65 bushels per acre—corn manured with cotton seed. Fourth crop, wheat, 42 bushels per acre. The average product of this land *without the sod* would not have been more than 1,000 lbs. seed cotton, 15 to 20 bushels corn, and 8 to 10 bushels wheat per acre."

This is a very remarkable increase in the production of land, due almost entirely to grass. When in corn, cotton seed were applied, which seems to have been all the artificial aid the land had.

SUITABILITY OF VIRGINIA FOR GRASSES AND FORAGE PLANTS.

Let it be kept in mind, as before stated, that we are speaking in this connection for Maryland as well as for Virginia, and some of the more northern of the Southern States. Some portions of Virginia are of course better suited than others for the grasses. The Piedmont, Valley and Mountain regions are *par excellence* the grass regions of the State, and there is no section of the United States where the grasses are more productive when properly cultivated and managed. But in all portions of Virginia the grasses do well, unless on a few of the most sandy lands; and forage plants, particularly fodder-corn, rye, sorghum, field peas, and lucerne, succeed, unless the latter, which will not do so well in the colder portions of the State. To these may be added "prickly comfrey," with which we have had some experience, and are disposed to think very favorably of it if cultivated on a small area, with very rich land. Hogs and cows after a little education with it eat it freely.

The American Farmer

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At the office of THE AMERICAN FARMER are located the offices of the following organizations, of each of which its proprietor, Wm. B. Sands, is secretary:

Maryland Horticultural Society.
Maryland Dairymen's Association.
Maryland State Grange, P. of H.
Agricultural Society of Baltimore Co.
Also, of the Maryland Poultry Club.
Geo. O. Brown, Secretary.

BALTIMORE, MARCH 1, 1882.

OUR friends will notice, we think, with approval, that the neat appearance of THE FARMER is still further enhanced by the stitching and trimming of this number, whilst its contents keep up, at least, in interest and value with previous issues. We hope our present subscribers will not relax their kind exertions to still further enlarge its circulation. Those who have already forwarded lists can increase them at any time by remitting the club rate for the additional names. Those who have not yet done so will oblige us by forwarding as promptly as may be convenient their renewals. Our PREMIUM OFFERS are still open, and we shall be glad to have them widely availed of by such persons as are willing to do some work in the interest of THE FARMER.

TO THE FRIENDS OF "THE FARMER" IN VIRGINIA.—Dr. Pollard is fully authorized to act for the publishers of THE AMERICAN FARMER, in all matters pertaining to subscriptions, advertisements, etc., in the State of Virginia, and parties to whom it will be more convenient, are advised to correspond with him.

The Prize Essays.

These are being examined by the gentleman who kindly undertook, at our request, to pass upon their merits; but as the judges are widely separated it has required rather more time to make the final awards than we at first anticipated would be necessary. We expect, however, to be able to announce in our next issue the names of the successful competitors, as well as those of the members of the several examining committees. From the comments made by those who have read the papers submitted to their judgment, we take it that a treat is in store for our readers in the very instructive, practical and well-written essays, which have been prepared in compliance with our invitation for the columns of THE AMERICAN FARMER.

OUR edition of January 1st is exhausted, and we are compelled to commence all new subscriptions with later issues. Parties remitting will therefore oblige us by designating with what number their subscriptions shall begin.

The Agricultural College.

A correspondent of the Belair *Ag's* urges the Deer Creek Farmers' Club, which is, as our readers know, one of the most intelligent in our State, to use its influence with the delegation from Harford county in the Legislature to induce them to vote for a restoration of the withdrawn appropriation to the Agricultural College, with a provision that there shall be there established an experiment station, such as exists in Connecticut at the University at Middletown.

For the club to take such action would be no less than a public misfortune! It cannot afford to do it. Its reputation ought not to be lowered, at the instance of the writer of the article in question (doubtless an interested party), to bolster up an institution so wanting in reputation. It would put itself entirely out of line with the other farmers' associations of the State. Of these, NOT ONE has up to this day uttered a word favorable to this badly managed public concern. On the other hand, farmers' clubs, granges, conventions, have emphatically condemned its inefficiency and departure from the objects of its creation.

The proposition to annex to the proposed renewal of the State's subsidy the condition named is an absurdity. The far-sighted founders of the college, ahead of their day, made provision in the charter for what would have been the first of American agricultural experiment stations. After providing that a Model Farm should be established in connection with the college, the law requires the trustees "to order and direct to be made, ANNUALLY, a series of experiments upon the cultivation of cereal and other plants adapted to the climate of the State of Maryland, and cause to be carefully noticed upon the records of said institution the character of said experiments, the system of cultivation adopted, the state of the atmosphere, and all other particulars which may be necessary to a fair and complete understanding of the result of said experiments," etc., etc.

And it was a patriotic and public-spirited citizen of Harford who, in commanding to his fellow citizens the scheme of an agricultural college, which he had so much at heart, as promising "to produce a corps of enlightened, well-disciplined and eminently practical farmers," included among its main features the opportunity its pupils would have "of witnessing important scientific experiments."

When have they had this opportunity? When has the law *not* been utterly and wilfully disregarded? Is any law better executed by being repeated on the statute books? Can the trustees be relied upon to carry out such a provision now, when they have so long neglected the expressed requirements of the charter? Would such a proviso have more force now than two years ago, when, on the plea and understanding that the college was to be prepared for conversion into an experiment station, it received for one additional year its appropriation, previously struck out by a vote so decisive as to be practically without dissent? Can the trustees give capacity, energy and experience to a government which has proved itself, over and over again, inefficient, inert and ignorant of the proper aims and purposes of the college, and which, when visited by a committee of the Legislature, appeared mainly zealous that the appropriations should be restored because they are claimed to be "expressly designed to pay salaries to teachers?"

Yet the Deer Creek Club—a body of truly "enlightened, well-disciplined and eminently practical farmers"—is asked to intercede in behalf of an institution which does nothing, and is without the capacity to do anything, to replenish the ranks of such farmers; an institution whose head was described by one of his own associates in the faculty as "by profession a sailor, not a scholar"—"all the bent of whose mind is to 'navigation,'" and who, though he gives as a reason why the

State should again come to its support that it has "not been painted since 1859," that it needs repairs inside and out, and, unless the State comes again to its aid, must fall into decay, ignores the fact that for most of that time it has had an expenditure made upon it, as was some time ago pointed out by Mr. J. Howard McHenry, of \$20,000 a year; and which, in all, has already cost the State of Maryland more than a quarter million of dollars; and given, in return for it—what? Who can say what it ever has given the farmers of Maryland?

The mere suggestion, two years ago, of connecting with the college the experiment station, so much needed, killed the popular movement for such a desirable establishment, and there is certainly to-day no intelligent disinterested farmer in the State, knowing the real situation, who would wish to see any connection between the two institutions.

The college has now some thirty pupils, representing in all eight counties of the State, and mostly from the cities of Washington and Baltimore. (A few years ago nineteen counties were unrepresented.) It still receives \$7,000 a year from the State, yet will soon become moribund if the Legislature does not hasten once more to its relief. It is *not* an agricultural institution; it does no good office for agriculture. Educationally, it deserves only contempt. Yet with this status, with this record, it calls upon the farmers of the State, whom it has deceived, to whom it has so often betrayed its promises of reform, to stand between it and threatening, and deserved, dissolution.

To the members of Deer Creek Club, we commend rather the action reported elsewhere of the Gunpowder Club, which comprises in its membership stockholders, former pupils and the fathers of pupils who have been at the college and know its character and works!

The Farmers and the Agricultural College.

The Gunpowder Farmers' Club at its last meeting, adopted the following preamble and resolution:

"It having come to the knowledge of this Club, that efforts are being made by the officials of the Agricultural College to have restored to that institution, the State appropriation heretofore withdrawn at the instance of this and other farmers' organizations,

"Resolved, That Gunpowder Agricultural Club requests the delegation from this county in the Legislature, to oppose and vote against any such expenditure of the taxpayers' money to an institution, which has long proved its inefficiency to advance in any direction the agricultural interest of the State."

COL. THOMAS M. HOLT, whose letter testifying to the merits of the Champion Mowers and Reapers is to be found elsewhere in this issue, is the President of the North Carolina State Agricultural Society, a gentleman in whom every confidence may be placed, and long a friend and subscriber of THE AMERICAN FARMER.

MESSRS. G. S. WATTS and T. ALEX. SETH have formed a co-partnership for breeding and selling Jersey cattle, and will jointly conduct the business at Windsor Farm, Baltimore county.

A subscriber in Southern Maryland writes: "We are glad to have THE AMERICAN FARMER with us, (I say we, because my wife enjoys the paper as much as I do), twice a month, and would be glad to welcome it weekly. I only wish I had the time to help quadruple the number of your subscribers."

P. R., Prince George's Co., Md., says: "I think every farmer will hail with delight its publication twice a month. I cannot afford to do without it in my family. It ought to be in every family in the State."

TANNING SKINS.—Shave off with a sharp knife all flesh adhering to the skin, then wash thoroughly with warm water and strong soap both the hair and flesh side of the skin. After being cleansed, stretch the skin tightly upon a board, with the flesh side up, and apply and rub well in a composition of equal parts of common salt and alum. After the composition has been applied, put the skin still on the board—in a shaded place to dry, and when dry rub with the hand until the surplus composition is removed and the skin is pliable. If it is desired to color the wool the dye should be prepared lukewarm, and the skin dipped into it and colored the desired shade after being cleansed, and before the salt and alum composition is applied.

GRANGE NOTES.

National Lecturer's Communication.

SUBJECTS FOR SUBORDINATE GRANGES FOR MARCH.

Question.—What agricultural organization is of most importance to the farmers?

Suggestions.—Local agricultural organizations have only local value and interest. State organizations have value only to certain ends and in certain directions. National agricultural associations and agricultural congresses may accomplish certain objects in certain ways. But none of these will ever relieve the farmers from bearing burdens of injustice, nor elevate them as a class. The organization of the Patrons of Husbandry is the only organization, through its work in the Grange, that will ever secure justice to the farmers, and elevate them to their rightful position. The Grange is therefore the all-important organization for the farmers, and they must sustain it and stand by its pure principles. Does not the farmer who has forsaken the Grange, and those who have not identified themselves with the Order, demonstrate by their own acts of selfish isolation that they are not capable of self-government? Hence they submit to the yoke of bondage placed upon them by their masters.

Question.—The duty of Patrons?

Suggestions.—The Grange is the only organization which promises any hope of relief to the farmers. Our principles made a success, will relieve the farmers from injustice and depression, secure their rights, the rewards of their own labor, and the profits of investment. It requires all the farmers to accomplish an object so great and noble. Members should labor faithfully to make every Grange a success. Labor with those outside the gates, convince them of error, and secure their affiliation with the Order. Our Grange and our success will be just what we make it.

WOMEN IN THE GRANGE.—Brother S. Adams, of Minnesota, speaking of admission of women to all the rights and privileges of the Grange, says: "We are truly thankful that this Order has been so wisely devised; that her presence among us shall cheer us onward in our duties, and may our strength and integrity be ever her shield from harm and means of support; while her purity, tenderness and delicacy shall grace our Grange gatherings until the word Patron shall be a synonym for intelligence, sociability, refinement, honor, throughout the land."

LOCUST GROVE, No. 173.—A new Grange under this name was organized in Baltimore county, February 8th, by Wm. B. Sands, Secretary Maryland State Grange, and James Pentland, Master of Homeland Grange, with the following officers: M. Richard Vincent, Jr.; O. J. W. Jacobs; Leo, Fred'k Gambrill; St. Jas. T. Milling; Ast. St. Jas. Porter; Ch. Wm. Wilkinson; Tr. Hy. Volz; Sec. Walter Gambrill; G. K. Mercer; P. Porter; C. Mrs Richard Vincent, Jr.; P. Mrs. J. W. Jacobs; F. Mrs. Philip Johnson; L. A. S. Miss Owens.

FAIRLEE, No. 8, KENT COUNTY, has elected the following officers for the ensuing year: M. J. H. Gale; O. J. P. Nicholson; Lee, W. C. Stevens; St. S. W. Brown; Ast. St. J. C. Wheatley; Ch. J. H. Baker; Tr. J. W. Corey; Sec. T. A. Hulme; G. K., J. Lamb; C. Sister L. A. Gale; P. Sister M. A. Rees; F. Sister Ida C. Crew; L. A. S. S. C. Corey.

Live Stock Notes—March.

For the management of the farm stock at this usually changeable season of the year, we have but little to suggest that is new, except that we will need rather more feed and that of better quality than is needed during clear and cold weather.

As the plowing season is now at hand, see that all horses and mules have good collars of suitable size, remembering always that more harm is done by a collar being too large than by using one too small. As the shoulders are more tender after the comparative rest of winter, they will often be made sore by the constant draft in plowing. So that it will be found a good rule to have them washed with strong salt and water after they have been used each day, while they are warm from work. A good washing will tend to make the skin clean and also more tough. Be particular to have the hames fit close, just so as not to press too hard on the shoulders.

When oxen are used they ought not to be compelled to work much in muddy weather, as that will be found to wear their feet out much faster than on hard frozen roads. Often one or two days' work on bad roads will cause the loss of a week or ten days when the time of a team is very important.

Early lambs should be provided with a suitable trough and some corn meal and bran mixed kept in it at all times, so that they can eat often. They will begin to feed some at a few days old, and will be much more apt to get fat early so as to sell while the price is up.

Brood sows should be fed very moderately until the pigs are a week old; after that, all they will eat should be the rule, of such food as will tend to make a good flow of milk. Do not hesitate to either give away or kill some pigs when a sow has more than she can do justice by, remembering always that six or eight good pigs are worth more either to keep or for sale than a greater number of poor, half-starved runts. If one sow has too many and another too few pigs, they can be averaged, if those of the one having few of her own are not over twenty-four hours old at the time the others are added, as they very early learn to keep the same place at the dinner table and will stick to it or starve.

Calves will begin to eat some meal and nice clover hay at two weeks old, and a little should be kept before them at all times.

MARYLAND BERMERKSHIRES.—Dr. Ellzey, in the *Southern Planter*, says there is no better herd in any country than Mr. A. M. Fulford's, and that his Black Josephine is probably the best Berkshire sow now living.

HAW RIVER, N. C., March 8, 1881.
To whom it may concern:

This is to certify that I have been using the Combined Champion Reaper and Mower for the past ten years, and the Champion Single Reaper for the past three years, and have always found them to perform to my entire satisfaction all that has been claimed for them. I have tried them with other machines, running one after the other in the same field, and have invariably found the Champion to do its work more satisfactory, and at less cost for repairs. Its strength is a very great recommendation to it, especially to farmers remote from the shops. I find the single mower and single reaper to give better satisfaction than the combined machines, for reasons that will be obvious to any one on examination, and I would recommend all farmers to buy a mower as a mower, and a reaper as a reaper; and my experience tells me that the Champion Single Mower and Single Reaper is all that are desired for the purposes for which they were made.

Very respectfully,

Thos. M. Holt.

Baltimore Markets—March 1.

Breadfruit.—*Fruit.*—Dull and heavy, with tendency downward. We quote: Howard Street Super 3.75@4.75; do Extra 5.00@6.50; do Family 6.00@7.00; Western Super 2.75@4.75; do Extra 5.00@5.50; do Family 6.00@7.00; City Mills Super 4.00@5.00; do Extra 5.00@6.00; do Family 6.00@7.00; Rio brand Extra 6.75; Fancy brands Family 8.00; Pine 3.50@3.75; Rye Flour 4.00@5.00; Baltimore Pearl Hominy 5.00; Gris 5.25; Corn Flour 3.00; Corn Meal per 100 lbs. 1.65; Buckwheat Meal per 100 lbs. 1.25.

Wheat.—Today the market opened rather easy, but improved under a strong but quiet buying demand, and closed down at the top figures. Only a small lot of Southern wheat offered, and the market is quiet and firm, with small sales at 1.24, 1.35 and 1.36 choice wheat for good long berry. Steamer Bed at 1.40 cts.; No. 3 red winter at 1.21@1.21 cts.; No. 2 red winter wheat at 1.32@1.32 cts.; do March at 1.20@1.20 cts.; do April at 1.32@1.32 cts.; do May at 1.24@1.24 cts.; do June 1.35@1.35 cts.; do July at 1.31@1.31 cts.

Corn.—The market to-day was quiet and steady, with moderate offering and demand both for shipment and for speculation. The inquiry for Southern Corn is more active, and the market is firm and a shade higher. White sold at 78@79 cts., and smaller lots of yellow at 88 cts. A cargo of the latter is held at 69 cts.

Onions.—The offerings are moderate, and the market is firm and high. We quote: Western mixed 48; do bright 50; do white 53; Pennsylvania 48@51; Southern 48@51.

Rye.—Quiet and nominal at 25 cts.

Hill Feed.—The demand is brisk and the market is firm at \$3.25 per ton for Western and \$2.75 for City Mills.

Clover Seed.—The market is quiet. Good to prime Western is quoted at 8.5@9 cts. per pound and common to fair Pennsylvania at 8.5@9 cts. per pound. Jobbing lots are quoted at 9.5@9.5 cts. for prime to choice.

Cotton.—Firm and to-day official quotations are as follows: Middling 11 1/2 cts.; strict Low Middling 11 1/2 cts.; Low Middling 11 cts.; strict Good Ordinary 10 1/2 cts.; Good Ordinary 10 cts.; Ordinary 9 1/2 cts.

Tobacco.—*Leaf.*—Owing to the small receipts and stock of Maryland in first hands, there continues but little trade. Holders are firm, and the few sales effected are at full quotations: Maryland inferior frosted \$2.25@2.50; do, sound common 24@25; do, good common 25@26; do, middling 26@28@28@29; do, good favored 28@29@30; do, fancy 21@24; upper country 24@25; do, ground leaves 24@25; Virginia common and good lugs \$2@5.50; do common to med. leaf 26@27; do fair to good leaf 28@30; do selections 21@26@27; do stems, common to fine 21@22.

Live Stock.—*B of Cattle.*—The run was light, but proved to be quite enough for the demand, which was not active at any time, except at wholesale, when prices were higher than they were last week. Best 35.37@36.75; first quality 35.50@36; medium quality 34.50@35.50; ordinary thin steers, oxen and cows \$3@4.5; most of the sales were from 35.75@36.50 per 100 pounds. *Milk Cows.*—Prices \$30@45. Common cows no demand, best in good demand. *Swine.*—The supply is generally reported as ample for the demand which is by no means active, as prices were considered too high for butchers to get their money back. Prices range from 8.5@9 cts. per pound net, a few extra selling at the latter price. *Sheep.*—For the best sheep the market has been active, with good prices; common which are in comparative full supply, are rather dull. We quote sheep at 4@5 cts. per 100 per ton at the latter price, most sales from 4@5 cts. per 100 per ton for long and \$1.4 for short.

May and Straw.—The demand for hay is weak, but Straw is in fair demand at steady prices. We quote as follows: Baled Hay—Cecil county Timothy at 18@20; Maryland and Pennsylvania Timothy at 18@20; New York and Western at 14@16 for large and 15@17 for small bales; mixed \$13@15, and Clover at 13@15@16 per ton. Straw—Wheat \$10@11; Oat \$11@12 and Rye \$10@12 per ton for long and \$1.4 for short.

Provisions.—In demand and prices are firm. We quote packed lots from store as follows: Bulk shoulders at 7/4 cts.; clear rib Sides 10 1/2 cts. Bacon shoulders 8 1/2 cts.; do clear rib Sides 10 1/2 cts.; Hams 13 1/2@13 1/2 cts. Refined Lard in tierces 12 1/2 cts. Meas Pork \$18.50 per bbl. for new and \$18.25 for old. Dried Pork—Dull at \$8 per 100 lbs.

Butter.—We quote 28@30c. for selections and 24@26c. for dairies; choice New York State at 38@40c.; fresh Western, choice, 38@40c.; do good to prime 28@30c.; Western rolls 28@30c. for good to choice, and 20@28c. for common to fair, and near-by receipts 29@31c. per lb.

Cheese.—We quote New York State choice, at 13 1/2@14c.; good to prime 13 1/2@13c.; Western, good to prime 13@12 1/2c.; choice 13@13 1/2c.

Eggs.—The supply is fair and the market weak. We quote fresh stock at 23@24c. per doz.

Poultry.—Active and firm. We quote Turkeys at 12@16c. and Chickens at 11@12c. per lb. undrawn; drawn at 12c. higher.

Fruits.—*Apples.*—New York, fair to prime, 3.50; good to choice 3.75 per bbl. Dried F. u/s—cherries 17 1/2@18c.; blackberries 13@13 1/2c.; bright sliced apples 6@6 1/2c.; bright quarters 5@5 1/2c.; fancy peeled peaches 6@6 1/2c.; good to prime 12@14c.; unpeeled 7@7 1/2c.; quarters 6@6 1/2c. per lb.

Potatoes.—Steady and firm. Burbanks and Early Rose quoted at \$1.20@1.25 per bushel. Seed Potatoes \$1.20@1.25.

Oysters.—We quote Yellow at 28.50@29.75; Red 28.50@29.75 per bbl.; good to prime Yellow in bulk \$1.00@1.10 per bushel.

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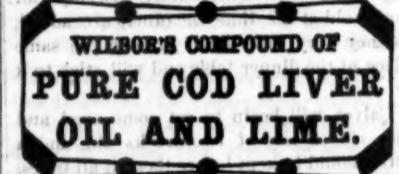
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PERCHERON HORSES.**



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IMPORTED IN 1881 BY W. T. WALTERS.
WE will offer for sale, on WEDNESDAY, 22d
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Twenty-five Imported Percheron
Stallions and Mares,

ranging in weight up to about 2,000 pounds, and in
height up to 17 hands, it being our intention to close
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After an experience of five years in France, and a further experience of some fifteen years as importers of these remarkable animals, we do not hesitate to claim for this lot that they are the most remarkable and valuable we have ever seen here or abroad. These horses have been imported the better part of a year, are thoroughly acclimated, and in fine health and condition for standing. We guarantee that our importations have been entirely pure-blood Percherons—that is, descended from the pure Arab, enlarged to give them all the power, more action and spirit, and greater endurance and docility than any draft-horse in the world. This superior race is not to be confounded with Boulonnais, ordinary rough Norman and other French horses largely imported the past few years. On application, Catalogues containing details will be furnished by or previous to March 1st.

Sale to take place at 12 o'clock, at KEARNEY'S STABLES, Cor. Centre and St. Paul Sts., where the horses may be seen several days previous to the sale. They may also be seen at any time at our farm on the York Road, three miles from the city.

W. T. WALTERS & CO.,
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**THE
HAMBLETONIAN
STALLION**

PERALTO

Foaled 1877; Height, 16½ Hands;
Weight, 1,200 Pounds.

SIRED by "Pierson," son of Rydyk's "Hambletonian," out of "Fashion" by "Hiatoga Chief," a son of Hatley's "Hiatoga." The dam of "Pierson" was "Fannie Clay" by Neaves's "Cassius M. Clay."

PERALTO is believed to equal any five-year-old ever owned in Maryland for speed, breeding, size, appearance and form. As his sire showed a 2:30 gait at Prospect Park track, Brooklyn, N. Y., and his dam beat 2:31, it is thought he will prove a success as a stallion particularly as he comes of demonstrated prepotent families.

TERMS.
Twenty-five dollars the season, with privilege of returning the following year in case of failure. Fifty cents to the groom for each mare. Mares from a distance kept on grain or pasture, as desired, at moderate rates, and owner's risk.

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That the CHEAPEST and BEST Fertilizer for all crops is

BAUGH'S PURE DISSOLVED RAW BONE

WARRANTED to be composed of Pure Raw Bone and Oil of Vitriol only. Send for our descriptive pamphlet showing Guaranteed Analysis. "Send Free." Dealer wanted in every county. Address

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GILPIN'S VEGETABLE LIVER PILLS

RE prepared, with great care, from medical plants; are coated with sugar, that they may be taken by the smallest child and upon the most delicate stomach; are intended especially to act upon the Liver, thereby relieving all such diseases as COSTIVENESS, HEADACHE, PARALYSIS, DYSPEPSIA, COLDS, JAUNDICE, and all diseases of a bilious origin. No better evidence can be offered in favor of the Pills than the very fact that where their ingredients are known to family physicians, they are using them in their private practice. We append the following from one of our most prominent physicians:

OAKLAND, June 28, 1859.—Dr. Gilp's: After carefully examining the formula of your Sugar-Coated Pills, I feel but justice to say that the combination is certainly perfect, and comprises the only remedies I ever believed were the proper ones to be used in diseases of a bilious origin. I shall take pleasure in recommending them, not only to my patients but the entire medical profession. Yours truly, J. M. WISFAR, M.D.

From one of the leading retail druggists of West Virginia:

WVSTON, W. VA., June 18, 1859.—Messrs. Gilpin & Co.—Gent's: Please send by express twelve dozen Gilpin's Vegetable Liver Pills. I have the most flattering accounts from all who have used them, and believe the day is not far distant when they will supersede all others. Yours, F. M. CHALFANT.

We could fill several pages with certificates, etc., from prominent men throughout the country, but prefer to let the Pills in the future, as they have in the past, rest entirely on their own merit, knowing that wherever they are known their use will pass down from generation to generation.

GILPIN'S VEGETABLE LIVER PILLS are sold by all respectable druggists and country store-keepers throughout the United States and Canada.

Principal Depot, CANBY, GILPIN & CO., Baltimore.

Ground Raw Limestone as a Fertilizer.

The latest among intelligent farmers is increasing on the subject of

GROUND RAW LIMESTONE AS A FERTILIZER.

Wherever enough has been used, say 700 to 800 pounds per acre, the result has always been satisfactory. A Marylander writes us that he distributed twenty-five tons in October last on different farms, and up to this time it is equal in every case to the best Phosphates and in some cases is superior to all other Fertilizers. An analysis of the celebrated Blue Grass region of Kentucky shows 2.46% pure carbonate of lime and 0.31% phosphoric acid. That is, there is eight times as much Ground Raw Limestone in the virgin soil of the Blue Grass region as there is of Phosphates or Bone Dust. Our formula for the best Fertilizers has always been 100 pounds of Ground Raw Limestone to 100 pounds of Bone Dust. No one in their senses questions that Phosphates do good to the land, and no one in their senses ought to deny, in view of the analysis of the Blue Grass soil, that Ground Raw Limestone is the BANE of Phosphates and Bone Dust. 7 to 1. Lignite contains 48.10% carbon; straw contains 48.43% carbon; and yet professional men tell us that plants get all their carbonic acid from the atmosphere. The facts are against them. Nature put eight times as much carbonate of lime in the Blue Grass region as phosphoric acid.

For further information, and cost of machinery for making the new Fertilizer, inquire of

TOTTEN & CO., PITTSBURG.

It can be made for 4½ cents per bushel, or less than \$1.00 per ton, and every farmer can prepare his own Fertilizer with ordinary horse power.

PRICES OF MACHINES.

1 horse power.	3 horse power.	5 horse power.
\$190.	\$396.	\$570.

81-POUND CUBAN QUEEN WATER-MELON.



This new Melon from the West Indies is certainly The Largest and Finest Melon in the world. Flesh, bright red, remarkably solid, juicy, crisp and sugar—far surpassing all others, and on a Melon of enormous size there is hardly half an inch rind! The first prime Melon the past dry season weighed 61 Pounds. We offer \$50.00 IN CASH PRICES FOR 1882 for the three largest Melons grown from our Seed. Do not fail to try and see how large the Cuban Queen can be grown.

AT OTHER SPECIALTIES FOR 1882.—Burpee's Wotted Gem Muskmelon (see illustration), the earliest, most productive, sweet as honey and a gem indeed! Burpee's Wotted Gem Cucumber, the very best, all hard and always ripe to hand. Large Wax Beans, marvellous for great beauty, fine quality and immense productiveness. Livingston's Perfection Tomato, bright red and smooth as an apple. Giant Mocca Onion, grown from our Seed last year to weigh 3½ lbs. each. Burpee's Improved Long Orange Carrot, sweet, crisp. Fearless White Spinach. White Stuttgart Radish, early, large and fine. Red Philadelphia White Cabbage Lettuce and

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A REMARKABLE OFFER!

The above 18 packets of the choicest seeds are offered at our regular prices, but we will send the entire collection, by mail post-paid to any address, for ONLY 50 CENTS, or 5 collections for \$2.00. Our Seeds are all Warranted First-Class, uncrippled in quality, and this remarkable offer is made to induce thousands of new customers to give them a fair trial.

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\$72 a week, \$12 a day at home easily made. Costly outfit free. Address

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From Largest Herd South, which took Five Premiums and Special Mention at Virginia State Fair, 1881.

THIS hog is free from disease, a natural grader, prolific and easy to mature. Catalogue free. Also, COLLIE PUPPIES in April, from imported strains.

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GOTSWOLD SHEEP.

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A few choice young bulls now ready for sale.

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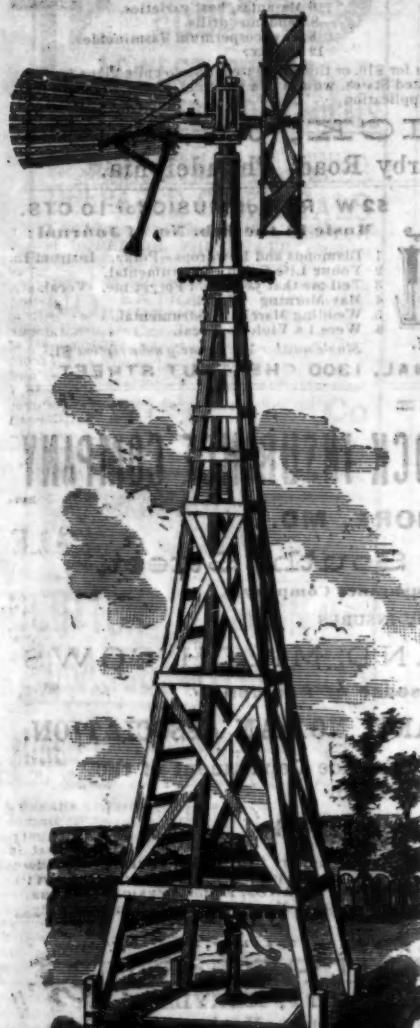
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Composed of the most concentrated materials, it is

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